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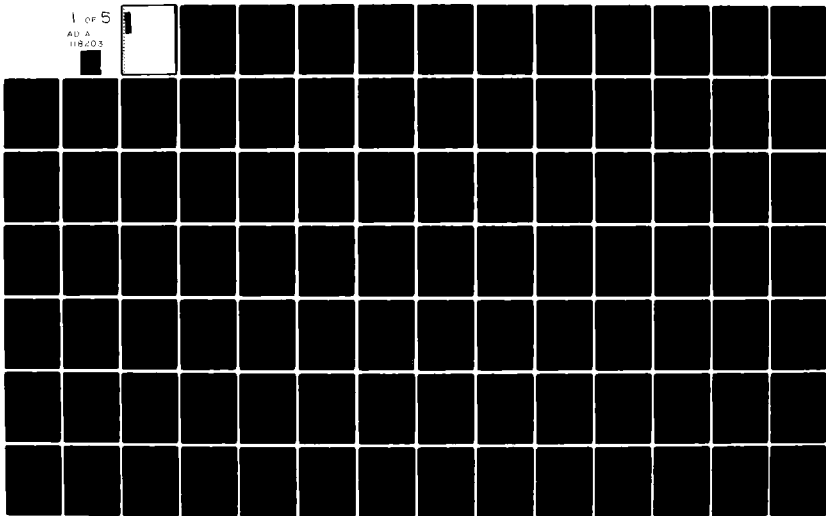
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ARCTIC ICE DYNAMICS JOINT EXPERIMENT 1975-1976

PHYSICAL OCEANOGRAPHY DATA REPORT

SALINITY, TEMPERATURE AND DEPTH DATA

CAMP BLUE FOX

Volume 2

prepared by

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## ABSTRACT

A total of 1391 STD (CTD) stations were taken from four manned drifting ice camps in the Arctic Ocean during the Arctic Ice Dynamics Joint Experiment (AIDJEX) from April 1975 to April 1976. Profiles were taken at least once a day from the surface to 750 meters at all camps and weekly casts to 3000 meters were taken at the main camp. Between casts all stations ran time series by holding the sensor at a fixed depth within the pycnocline; however, these data are not discussed. Plessey Model 9040 STD units were used at all camps and data were simultaneously recorded digitally on magnetic tape and graphically on analog charts.

The profile data from the digital tapes were smoothed using a running average. The differing response times of the temperature and salinity sensors were corrected for thermal lag by varying a lag correction until one value gave nearly congruent traces on a T-S diagram for the descending and ascending parts of the cast. A salinity drift which occurred when the sensors were stopped for bottle sampling was also taken into account during data reduction.

Whenever the digital data logging (DDL) system failed to work properly, manually digitized analog traces provided data backup. These profiles, however, are not considered to be as accurate as those processed from tape.

Static calibration of the temperature, salinity, and depth sensors was provided by bottle and reversing thermometer data. Least squares, best-fit polynomials, whose dependent parameters were temperature (T) and depth (D), converted the observed data to final data. Preliminary data analysis has revealed unique features of the temperature and salinity structure in the Beaufort Sea. One of these features is a wintertime upper mixed layer between 25 and 60 m produced by brine convection beneath the freezing ice sheet. This

layer changes from neutral to stable stratification in the summer when fresh water from melting snow and ice flows beneath the ice. Another feature is the step structure in both temperature and salinity at depths between 250 and 400 m. Individual steps are about 3 m in height. In this part of the Arctic Ocean there are mesoscale baroclinic eddies with unique temperature and salinity, as well as velocity signatures. These eddies are mostly found within the range of 50 to 400 meters. Deeper anomalies are observed to a depth of 700 meters, but because of the depth limitation of the STD, little is known about their lower structure.

This report pertains to the STD (CTD) data taken at the manned Camp Blue Fox. The STD data associated with the other three manned camps are in separate volumes (Bauer et al, 1980). Profiling current meter (PCM) data to a maximum depth of 200 meters were taken concurrently at the four camps and are separately reported by Manley et al, 1980.

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## INTRODUCTION

The organization and aims of the Arctic Ice Dynamics Joint Experiment (AIDJEX), with particular emphasis on the STD program, have been discussed by Amos (1975). The originally planned array of four campsites was successfully maintained on drifting sea ice from April, 1975, until October, 1975, at which time severe ice activity forced abandonment of the main camp at Big Bear, central to the array. Activities continued at the three remaining satellite camps (Blue Fox, Snowbird and Caribou) until completion of the experiment in May, 1976.

Figure 1 shows the beginning and ending positions of the four manned camps with respect to the Alaskan and Canadian coastlines and are superimposed on the dynamic topography of the Beaufort gyre. The more detailed drift tracks, with beginning and ending dates in Julian days, are shown for each camp in Figures 2-5. Appendix 1 gives the conversion from Julian (AIDJEX) days to Gregorian time, which are used extensively in this report.

The physical oceanography schedule called for a minimum of one STD (CTD) cast per day to a depth of 750 m at each site, as well as a weekly cast to 3000 m at the main camp. Between casts, time-series measurements were taken with the sensors held at a fixed depth in the pycnocline. Plessey model 9040 STD systems with model 8400 digital data loggers were used throughout the experiment with one exception. The STD sensor at Caribou was replaced by a CTD sensor (also Plessey model 9040) in January 1976. A breakdown of the stations taken at the manned camps along with the beginning and ending dates of operations are listed in Table 1.

In general, the data reduction procedures have been adopted from methods developed at Lamont-Doherty by A. Amos and D. Georgi. Their methods are oriented to shipboard STD operation and have, by now, become relatively standard. Certain aspects of dynamic and static calibration will be discussed in some detail since they relate more specifically to STD performance in an arctic environment.

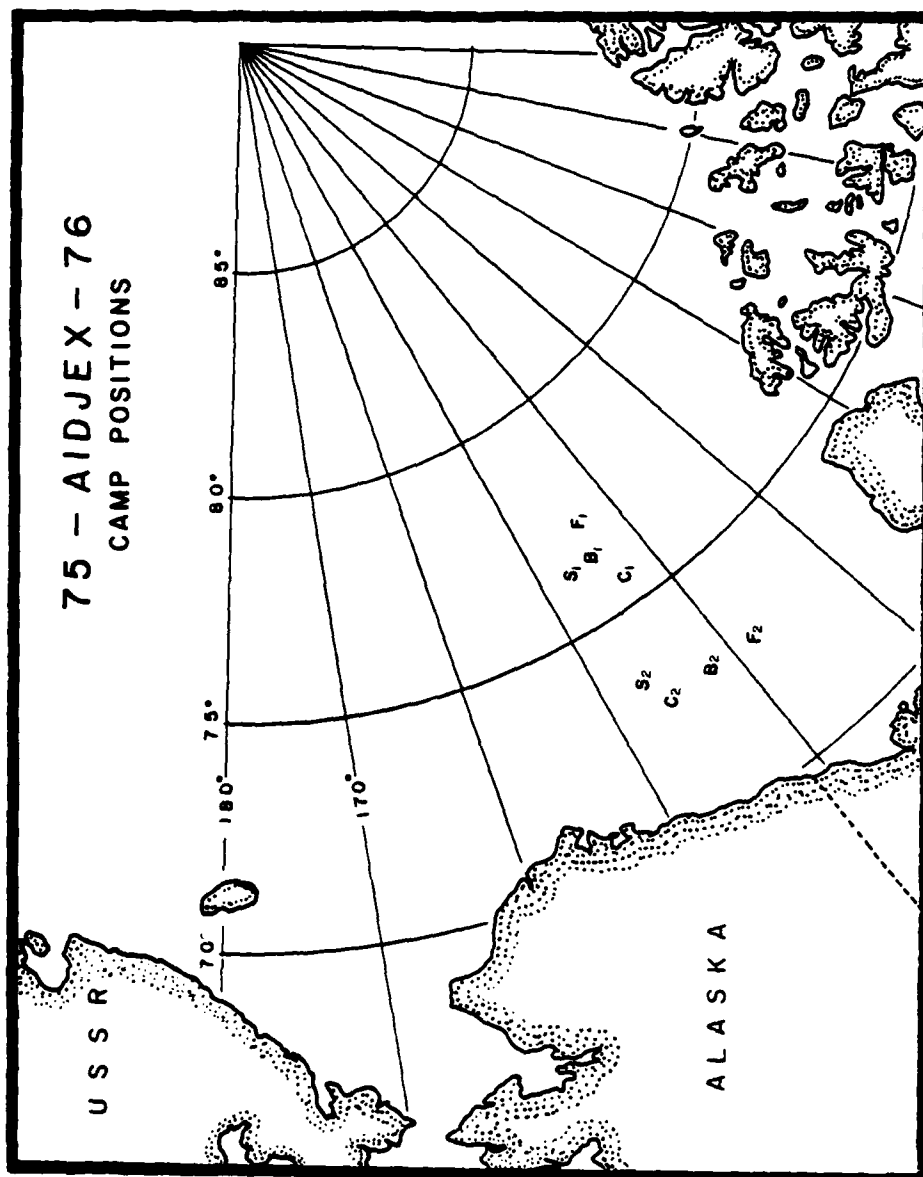


Figure 1 - Beginning and ending positions of the four manned AIDJEX camps Caribou (C), Blue Fox (F), Snowbird (S), and Big Bear (B) superimposed on the dynamic topography (dyn-m) of the Beaufort Sea (Newton, 1973). Subscripts 1 and 2 denote the beginning and ending positions of the camps respectively.

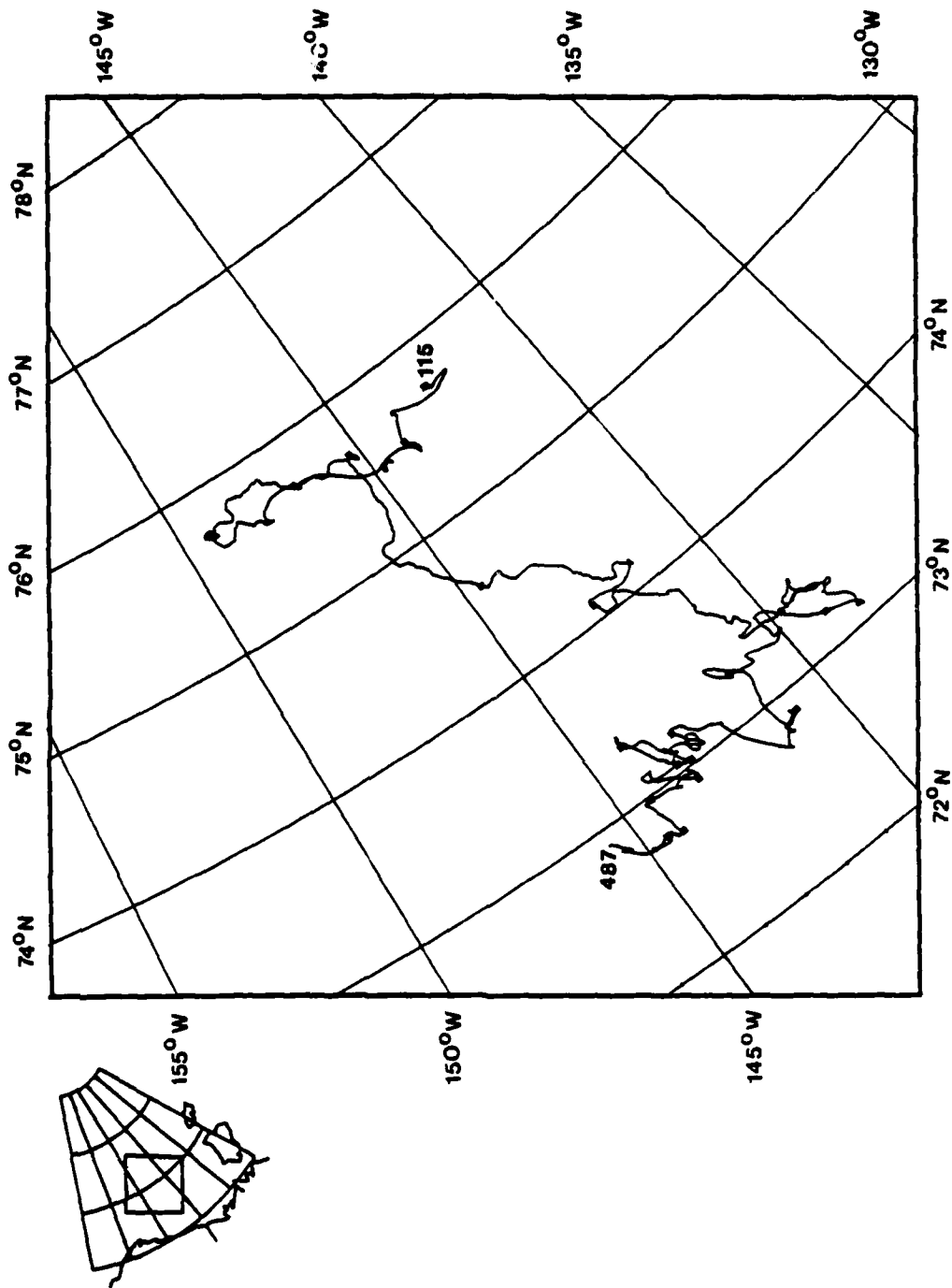


Figure 2 - Detailed drift track of the manned satellite Camp Caribou. In the early fall, Caribou became the main camp after the breakup of Camp Big Bear.



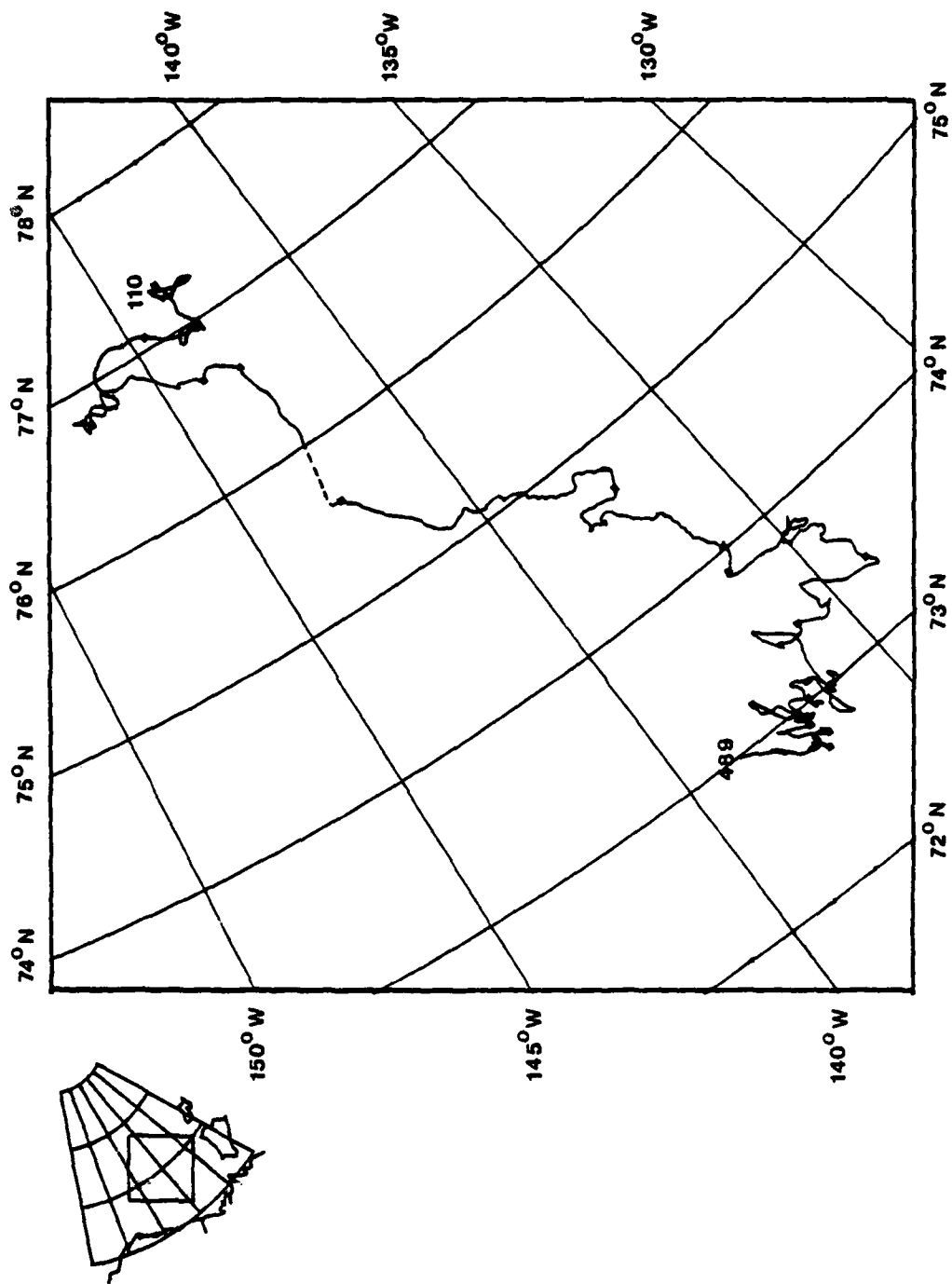


Figure 3 - Detailed drift track of the manned satellite Camp Blue Fox.



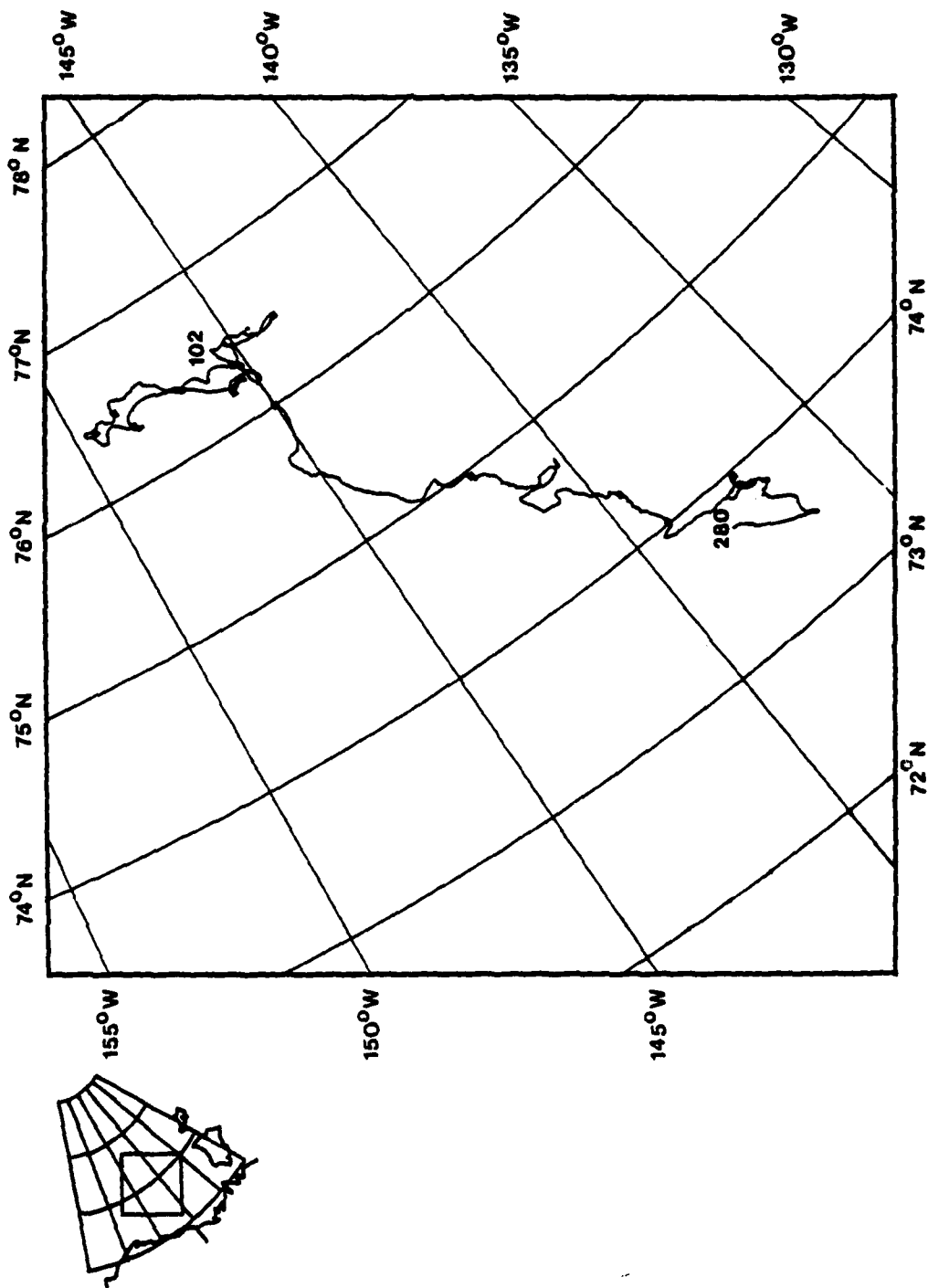


Figure 5 - Detailed drift track of the manned satellite Camp Big Bear. Near day 280, the camp was abandoned due to the breakup of the floe on which it resided.

TABLE 1

Breakdown of STD (CTD) Stations At The Individual Camps

CAMP	OCCUPATION DATE	EVACUATION DATE	TOTAL STATIONS TAKEN	PROFILING STATIONS USED	REJECTED STATIONS	TIME SERIES	DIGITALLY RECORDED STATIONS	MANUALLY DIGITIZED STATIONS
Caribou	6 Apr. 1975 (14 May 1975)	7 May 1976 (25 Apr. 1976)	852	416	30	406	245	171
Blue Fox	5 Apr. 1975 (10 May 1975)	4 May 1976 (20 Apr. 1976)	520	310	10	200	16	294
Snowbird	4 Apr. 1975 (16 May 1975)	6 May 1976 (20 Apr. 1976)	604	299	20	285	145	154
Big Bear	13 Mar. 1975 (4 Apr. 1975)	8 Oct. 1975 (1 Oct. 1975)	562	262	44	256	20	242

Note: Parenthetical dates are those when STD data collection began and ended.

"Digitally Recorded Stations" indicates profiling data taken from digitally recorded magnetic tape.  
 "Digitized Stations" indicates those profiling stations whose analog charts were manually digitized for computer reduction.

## BACKGROUND

From the time of Nansen's drift on the FRAM at the end of the 19th century, which marked the beginning of arctic oceanography, until planning for AIDJEX began in 1969, considerable information was collected on oceanographic parameters in the Arctic Ocean. This information was primarily salinity and temperature observations using classical water bottle and reversing thermometer methods at many locations. These data led to the identification of the primary water masses and gave some idea of their spreading throughout the basin (Coachman, 1963; Coachman and Aagaard, 1974).

Following the general classification of Coachman (1963), three distinct water masses are persistent throughout the Arctic Ocean. It is only in the subdivisions of the water masses that differences can be observed between the eastern and western Arctic Ocean. The major water masses and their subdivisions are listed below:

- 1) Surface Water (Arctic Water) - Extends to a depth of 200 meters and is generally low in salinity with temperatures usually less than  $-1.0$  degree C. Below the mixed layer lies a very steep pycnocline which is primarily determined by salinity. Temperatures at these latitudes are at or close to the freezing point and vary only slightly. As a result, density is controlled mainly by salinity. Subdivisions within this Surface Water are:

- a) A mixed layer of relatively low salinity which varies both seasonally and spatially. During the winter months, the mixed layer is well established due to wind and ice stress near the surface but more predominantly due to brine convection during the freezing of open water to form sea ice. Spatial variations in the mixed layer salinity appear to increase monotonically from the coast of Alaska (27 ppt) to Franz-Joseph Land (approximately 33 ppt) neglecting near coastal areas. Temperatures in the

mixed layer are at or very close to the freezing point. During the summer months, fresh water is added to the mixed layer via melting of the upper few feet of the permanent pack ice. Also, the winter mixed layer may be broken up into step-like features due to episodic events of fresh water addition and mixing, or may not exist at all.

b) The Pacific summer water is marked by a shallow temperature maximum confined to a depth range of 50 to 130 m. The maximum temperature varies from 0 to -1.5 degrees C, depending on the location in the western Arctic. The water has its origin from the Bering Sea as it enters through the Bering Straits and is further modified in the Chukchi Sea before being advected into the Arctic Ocean (Coachman and Aagaard, 1974). This water loses its identifying characteristics as it moves out of the Chukchi Sea into the deep Arctic Ocean due to lateral and vertical diffusion of heat and is, therefore, not seen in the eastern Arctic Ocean. During AIDJEX, a decrease of almost 0.5 degrees C was observed in the Pacific T-max layer over the course of the experiment.

c) Winter shelf water that has been advected along isopycnal surfaces and in the eastern Arctic occupies a layer from the base of the mixed layer to the upper reaches of the Atlantic water. In the western Arctic, this layer is directly under the Pacific T-max layer and is a local temperature minimum (approximately -1.5 degrees C) centered at approximately 175 meters.

2) The Atlantic layer extends from a depth of 200 to 900 meters. This water enters the Arctic Ocean via the Greenland-Spitzbergen passage. This layer has temperatures greater than 0 degrees C with a maximum temperature between 300 and 500 meters. In the upper section of this layer, salinity rapidly increases up to a depth of 300 meters where the vertical gradient in

salinity is substantially reduced. Salinity values are close to 35 ppt at a depth of 900 meters irrespective of spatial position.

3) Bottom water, which occupies the remaining water column, is at potential temperatures less than 0 degrees C. The potential temperatures in the Canada and Markarov Basins (-0.5 degrees C) are slightly warmer than the -0.9 degrees C. temperatures observed in the Amundsen and Nansen Basins. This is due to the shallow sill depth of the Lomonosov Ridge which prevents water deeper than approximately 1550 meters in the Eurasian Basin from entering the Amerasian Basin.

Prior to AIDJEX the data taken in different locations were generally not synoptic, but the stability of the density field allowed sections from different years to be combined. This led gradually to a knowledge of mean salinity and temperature fields and the general circulation of the water masses. The steady-state density and velocity fields came to be understood on the basin-wide scale. An important addition to knowledge on these scales was made by Worthington (1953), when he identified the clockwise Beaufort gyre which circulates in the area of the AIDJEX array.

Observations of some smaller scale features and transient phenomena were conducted from Fletcher's Ice Island (T-3) and from Station Alpha during the IGY. A number of intriguing oceanographic features were noted. Surface waves were detected in the ice-water system. These were of long period, 10-15 sec., but only millimeters in amplitude (Hunkins, 1962). Internal wave study with thermistor strings was also begun. Current meters of various types were deployed and there were early hints of the swift transient undercurrents at relatively shallow depths. Frictional effects beneath the ice also were investigated from pack ice near T-3 and a spiral behavior of the current

vector with depth was seen which closely followed the theoretical behavior predicted by Ekman many years earlier (Hunkins, 1966). There had also been detection of intriguing step structures in temperature in the depth range of 100-300 m (Neshyba et al., 1971).



## THE OCEANOGRAPHIC FIELD EXPERIMENTS

In order to better determine scales of time and space for the important motions, as well as to test instruments and techniques, several pilot projects preceded the main AIDJEX project. In 1970 and 1971 hydrographic stations and current meter observations were made by participants from the University of Washington. Current meter profiling was conducted by the Lamont group at the 1971 camp. In 1972 a one-month comprehensive pilot project included a main and two satellite camps in a 100 km triangular array from which hydrographic stations were taken (Newton and Coachman, 1973). At the main camp, current profiles to 180 m (Hunkins, 1974 b, c) and continuous salinity and temperature profiles to 1000 m four times a day were taken. A unique oceanographic experiment, possible only on pack ice, was also conducted when Weber and Erdelyi (1976) measured changes in the tilt of the sea ice and fluid ocean with a hydrostatic level.

The 1972 project showed that the experiments planned for 1975-6 were feasible and pointed directions for improvement of instruments and techniques. The data, although only one month in duration, showed interesting and somewhat unexpected features.

The presence of energetic eddies with diameters of 10 to 20 km and speeds of up to 60 cm/sec was one of the most striking of these features (Hunkins, 1974 b; Newton, 1973). The 1972 project also stimulated efforts toward quantitatively assessing the drag of ice on the water. This led to such contributions as a momentum integral technique for direct measurement of this drag and to discussion of the drag produced by pressure ridge keels (Hunkins, 1974 a, 1975 a, b).

The oceanographic program for the main experiment of 1975-6 was designed to insure uniform observations at all four manned camps with supplemental observations at the main camp. Salinity and temperature were monitored with Plessey Model 9040 STD (CTD) systems. The satellite camp STDs were limited to a depth of 750 m by the winch systems and depth sensors. The main camp was limited to 3000 m by the depth sensor. Data were recorded digitally on magnetic tape with Plessey Model 8400 digital data loggers (DDL) and also graphically on charts. Casts were taken twice each day to 750 m at all four camps on a synchronized schedule. A weekly cast to 3000 m was made at the main camp. Between casts the sensors were suspended in the steep density gradient at about 50 m to record a time series of fluctuations.

Profiles of relative current speed and direction were also measured twice each day between the surface and 200 meters at each of the four camps. Times of the stations were designed to correspond as closely as possible to the STD stations taken at the camp. Final absolute velocity data at each of the four manned camps have been published (Manley et al, 1980 a, b, c, d).

In retrospect, the instruments functioned reasonably well and the basic goals of the project plan were accomplished. The Plessey STD (CTD)s were a model which our laboratory had used previously and we were prepared for difficulties which might be encountered. However, the Plessey Model 8400 digital data loggers were new models and we experienced various problems with them. This resulted in some salinity and temperature data being recorded only on paper charts which were later manually digitized.

During each cast, reversing thermometers and Nansen, as well as Niskin, bottles were used to collect water samples. Generally, two bottle samples were taken from the satellite camps during each station. The main camp,

however, had a rosette command sampler and took as many as ten bottles per station; the average being four.

To provide adequate calibration for the sensors, bottles and thermometers were rotated to different depths at each new station. The depths used for calibration purposes at all the camps were 5 meters (mixed layer), 250, 400 and 750 meters. A 3000 meter calibration point was used only at the main camp.

Water samples were stored in tightly sealed 450 ml glass bottles. Roughly every two weeks, the samples were flown from the satellite camps to the main camp where salinity values were determined. A Guildline Autosol laboratory salinometer was the principle instrument for measuring the salinity of samples taken with water bottles. It developed trouble in Spring 1975 and was not useable over the summer. A Hytech salinometer provided backup during this period.

## DATA PROCESSING

### Dynamic Calibration

Figure 6 shows the flow of the STD data processing stages. Initial screening of the raw data to remove spikes and discontinuities was done by computer so as to keep the data in a time series to correct for temperature lag. Bad data were either replaced by interpolated data or, if extensive, the time series was terminated and restarted when good data were again available. Thus, some gaps appear. Smoothing was done by applying a 3-point running mean to the temperature and salinity data and 7-point running mean to the depth data. The larger depth window was chosen because of the relation between digital resolution of the depth channel (0.3 m) and the slowest lowering rate.

In general, the dynamic response characteristics of an STD sensor depend primarily on the time constant of the temperature compensation probe since that of the conductivity cell is negligible by comparison. In practice, however, although the probe constant for Model 9040 STD is quoted as 0.35 sec. by the manufacturer, analysis of output data by different investigators using different methods has yielded estimates ranging from about 0.2 to 3.0 sec. (Scarlet, 1975; Goulet and Culverhouse, 1972). Apparently a certain variability can also result when the same method is applied to different sensors or to the same sensor under different conditions. Therefore, the AIDJEX data set, which comprises output from a number of STD sensors over an extended period of time, required careful analysis.

The bias associated with the dynamic response of individual sensors is, in fact, detectable, and a method which aims at compensation has been incorporated in the data reduction procedure. The screened, smoothed raw data are retained as an evenly spaced time-series in depth, salinity and

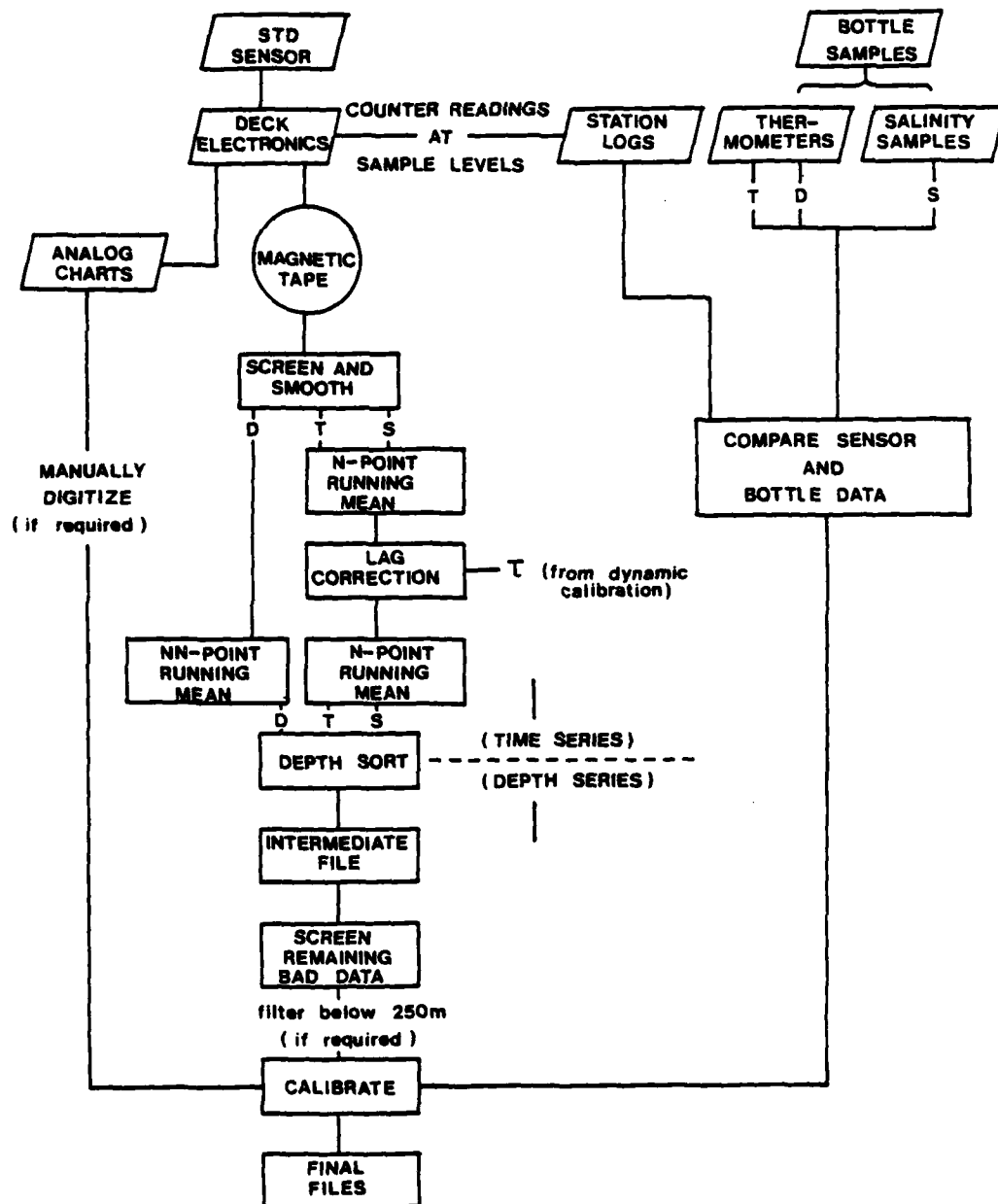


Figure 6 - STD Calibration Flow Diagram

temperature (D, S, and T) so that the time-rate-of-change of sensed temperatures ( $\partial T/\partial t$ ) can be computed.

A correction for the time response lag of the temperature sensors is then applied to parameters T and S before the series is sorted for increasing depth. The correction is based on the assumption suggested by Scarlet (1975) that response is exponential with a time constant,  $\tau$ , such that

$$T' = T + \tau \frac{\partial T}{\partial t} \quad (1)$$

$$S' = S + \frac{\partial S}{\partial T} \times \tau \frac{\partial T}{\partial t} \quad (2)$$

where T, S and T', S' are the sensed and corrected parameters, respectively. The  $\partial S/\partial T$  term is assumed to be a constant, -1, since, for the temperature and salinity range of interest here, this assumption produces less error than the uncertainties in the other terms. The major source of error is in the computing of  $\partial T/\partial t$ . DDL resolution in temperature is  $\pm .003^\circ\text{C}$  but this may be degraded somewhat by noise. However, careful consideration of the sample rate and the range for smoothing and computing the temperature slope can give a workable computer approximation of equations 1 and 2. Once the correction model is established, we can return to the data for an estimate of what  $\tau$  should be.

A typical STD profile of the arctic water column is shown in figure 7. The trace is relatively free of the "spiking" normally associated with accelerations of ship's motion and rapid drop rates of a ship-launched cast. The sharp changes of the temperature gradient which trigger such spikes are

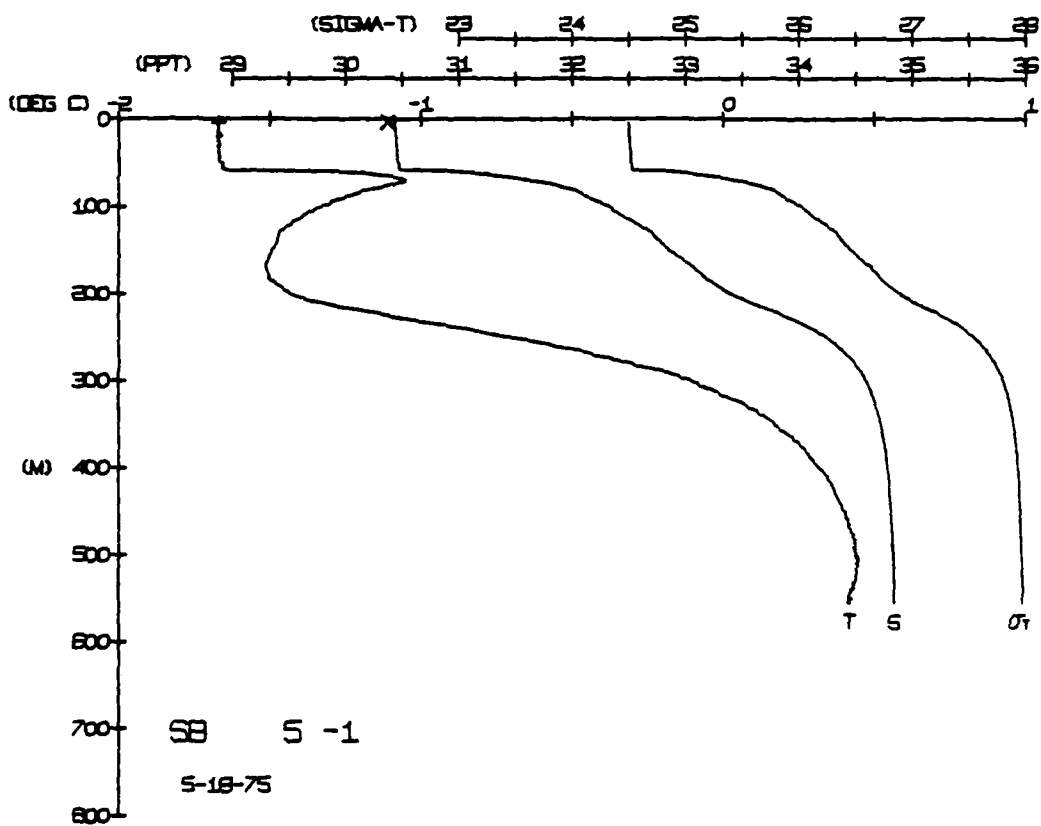


Figure 7 - Normal STD- $\sigma_t$  profile of Beaufort Sea.

absent in the Arctic Ocean with the exception of one notable feature: the temperature interface at the base of the mixed layer. Rather than a spike, what is produced here is an apparent offset, primarily in salinity, which is related to the response lag of the temperature sensors and which is sustained below the interface until the temperature gradient subsides. Dantzler (1974) in particular has pointed out the importance of this kind of systematic error.

We have focused our attention on the mixed-layer interface since it is the only feature generally present in the Arctic Ocean which is sufficiently large in temperature scale to afford some appraisal of sensor dynamic response. The interface, since it is remarkably well-defined and relatively stable over an extended period of time, lends itself to repeated sampling. When the mixed layer is well-established, a typical raw data printout will show the onset of the interface as two distinct events, one in salinity and then one in temperature lagging one or more scan intervals behind. (Scan intervals were generally 0.5 sec; occasionally 0.1 or 1.0 sec.) Although judgement was restricted to scan-interval resolution by this approach, a preliminary survey of data from the four station sites did indicate apparent sensor-dependent differences in response lag time. To investigate further, downtrace and uptrace T-S diagrams of the same profile were compared for a number of stations. Typical results are shown in figure 8. The uptrace (dotted) is always offset toward lower salinity along the mixed layer interface. According to equation 2, this is expected since the sensor sees the temperature change ( $\partial T / \partial t$ ) as positive on the downtrace and negative on the uptrace. When the correction model is applied to this data, the time constant  $\tau$  can be adjusted so as to minimize the offset between the traces.

This approach is readily implemented as a calibration procedure using a CRT computer terminal to monitor T-S diagrams. The time constant for the



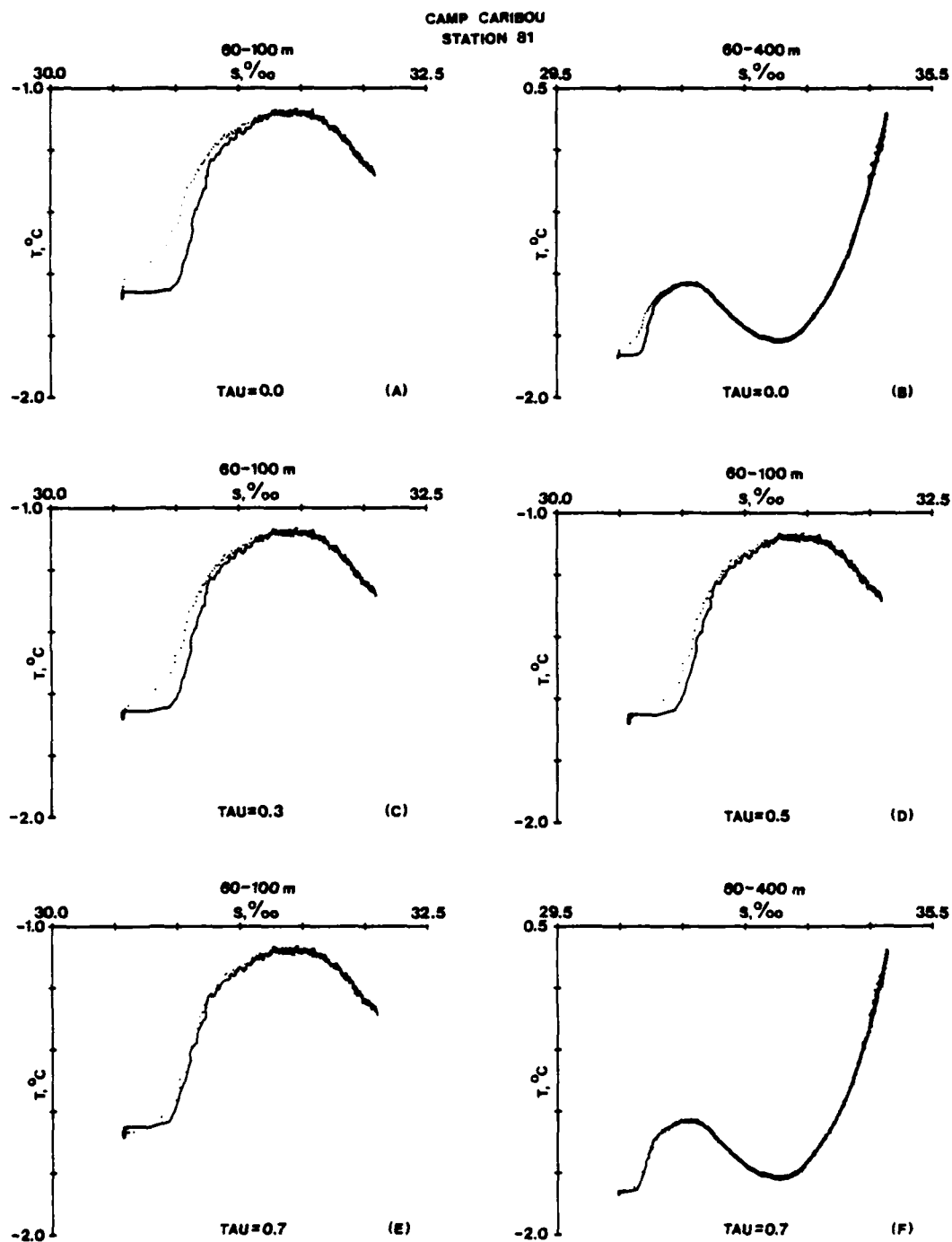


Figure 8 - T-S Diagrams showing the effect of varying the time constant for dynamic calibration

correction model is adjusted at selected station intervals in the data set to compensate for observed trends in sensor response. Results for a number of sensors are summarized in Table 2. The reason for the unusually slow response of the sensor at Big Bear is unknown, however, and a nominal value of 2.0 sec. is used.

The extent to which the values in Table 2 can be interpreted as valid indices of sensor dynamic response depends, of course, on certain assumptions. The interface feature is regarded as unchanged over the lapse of time (generally 1 to 1 1/2 hours) between downtrace and uptrace of any given station. Station records do, in fact, indicate that changes at the interface are slow, particularly from January to early June. Moreover, short-term changes would cause erratic adjustment of  $\tau$ , and this is not observed; the trend for any one sensor tends to be slow. The assumption that response lag in temperature is the dominant cause of offset between downtrace and uptrace also ignores other kinds of hysteresis and the effect of mixing by movement of the instrument package through the interface. In the case of mixing it might be proposed that the maximum effect occurs on the uptrace when the instrument wake precedes the sensors, entraining saltier water at the interface. The observed offset is toward lower salinity, however, and argues against the significance of this process. It should also be noted that calibration may require some subjective interpolation between stations which fall within the summertime breakup of the mixed layer when the step-like definition of the interface is periodically absent or less well-defined. In general, the results imply that there is a seasonal disparity of response characteristics among the different sensors, and that the response of an individual sensor may vary over an extended period of operation.

Once the determination of  $\tau$  was completed, uptraces were eliminated from the data set unless no downtrace was available. This was done to remove any mixing effects produced by the wake of the sensor package as it is pulled upward through the water column and which might be registered by the sensors which are attached at the base.

As can be seen from equations (1) and (2), temperature and salinity lag corrections no longer become necessary as the temperature gradient becomes very small and varies smoothly with depth. Below 400 meters in the Beaufort Sea, temperature lag corrections rarely attain a magnitude of  $0.004^{\circ}\text{C}$ , and in the vast majority of cases it is less than  $0.002^{\circ}\text{C}$  which is less than the resolution of the DDL temperature and salinity data. As a result, no temperature and salinity lag corrections were made below 400 meters. It should be stressed, however, in other parts of the Arctic Ocean this step might not be applicable because of the dynamic structure of the temperature gradient above 1000 meters.

The time lag corrections were then applied to the smoothed temperature and salinity (conductivity) data, and the data then sorted according to increasing depth.

TABLE 2

Time Constant Ranges for Dynamic Calibration Periods

Division into periods based on change of sensor, change of sensor components, or unexplained shift in observed response. Change of time constant is approximately linear between limits of each range. Unless noted - time constants are for STD sensors only. Station data that are missing (i.e., Big Bear: 1-49, 87-562) indicate manual digitization of the analog charts and therefore do not require a time constant,  $\tau$ .

<u>Camp</u>	<u>Calibration Period (Station Nos.)</u>	<u>Time Constant Range (Sec.)</u>
Big Bear	49 - 86	2.0
Snowbird	1 - 248	1.0 - 0.7
	249 - 299	0.7 - 0.5
	300 - 362	0.7 - 0.8
	530 - 604	0.8 - 1.0
Caribou	1 - 82	0.5 - 0.7
	83 - 222	0.7 - 0.5
	223 - 309	0.5 - 0.4
	310 - 558	0.5
	559 - 852 (CTD)	0.5
Blue Fox	1 - 20	0.5 - 0.8
	21 - 60	0.8 - 1.0
	61 - 97	1.0

### Manual Digitization

During field collection, the data of each cast were also simultaneously recorded on analog chart recorders. Wherever the DDL system failed to function properly for any given number of casts, the corresponding analog charts for these casts were manually digitized to provide the missing temperature and salinity (conductivity) data. On the average for all camps, manually digitized profiles comprised 67 per cent of the final data.

Resolution of the digitizer is .001 inches, but was limited to .01 inches by choice since it was felt that this still provided adequate resolution for the determination of temperature, salinity (conductivity) and depth. The accuracy of this process, however, is limited. Because units of temperature, salinity and depth are dependent upon their place within the chart system (even to the width of the ink line) the failings of the human hand and the subjective judgements made tend to enhance any errors in proportion to the analog scale.

The accuracy of this data will be discussed in a later section.

### STD Static Calibration Procedures

Bottle data consisting of protected and unprotected thermometer readings, and salinity determinations from the water samples taken at preselected depths of 5, 250, 500, 750 and 3000 meters provided the bulk of the data necessary for the calibration of the salinity, temperature and depth sensors. Recorded information pertaining to the output of the three sensors taken from the deck unit readout at the instant that the instrument was stopped provided the remaining data required for the calibration procedure. The information mentioned above was punched onto computer cards along with their appropriate station identification parameters and stored on the computer. Delta values between the recorded values and the bottle data at the depth levels of 5, 250, 400, 750 and 3000 m were then calculated and stored on file along with the original input data.

Preliminary quality control checks were done on the calibration data after it had been stored on file. These checks consisted of looking for delta values of salinity, temperature and depth outside a given tolerance range for each parameter. When data of this type were found, it became necessary to evaluate the validity of the values on the basis of technical logs and other possible sources of errors, such as incorrectly punched input. In the majority of cases, an explanation for excessive delta values was found and the data were repunched and again submitted to the data set. Of the 5 per cent of the calibration data set that required this special editing, less than 40 per cent of the data points were rejected because of technical problems.

In each camp calibration data set, sudden shifts in the delta values for any or all of the sensors would occur, thereby breaking the data set into time segments. These breaks in the data would sometimes agree with the technical log notes indicating some adjustment of the conductivity cell or temperature

probe or even when the entire instrument package was replaced. Occasionally, however, there would be unaccounted shifts in a sensor, that never-the-less created a natural break in the calibration data. Each parameter of salinity, temperature and depth was observed separately for these offsets in the data, since the sensors operate separately from each other and may alter at any given time. Generally, however, breaks in the data occurred for all sensors at the same time. The resulting time segments also followed, for the most part, the calibration periods indicated in Table 2.

Within a calibration segment of a particular sensor at a given depth level, it was necessary to consider the possibility of a time dependency on the delta values. Because of the cyclic nature of taking bottle data at the satellite camps (since they only had 2 bottles and 4 levels to maintain), data were rarely dense enough to justify a time dependency versus a constant offset based on least squares best fit and corresponding standard deviations correction. Only in a few rare cases were the delta values fit to a linear time drift.

Depth dependency of the various sensors within every calibration period was also calculated using least squares best fit polynomials. Their associated standard deviations and plots of the polynomial against the delta values were the criteria used to determine the polynomial of least degree that would best fit the data. In practice, the temperature sensor was never depth dependent and this agrees with previous work done with the Plessey STD and CTD.

Depth and salinity, however, were always depth dependent. Depth was normally quadratic in dependency while salinity was generally cubic. There

were special cases for the depth and salinity sensors, where depending on the number of points present, linear to cubic fits were considered the best choice.

At the end of the calibration procedure for an entire camp there would be 3 delta functions for every point in time that would convert intermediate STD values to final calibrated data, as shown by equation 3.

$$S_f = S_i = P_{sn}(d,t) \quad (3)$$

where     $s$  = sensor (temperature, salinity or depth)  
          $f$  = final data  
          $i$  = intermediate data of temperature and salinity logged from digital data or digitized data  
          $P_{sn}(d,t)$  = calibration polynomial for sensors and correct calibration segment  $n$ ;  $(d,t)$  implies possible depth and time dependency

Using the polynomial equations for temperature salinity and depth, it was then possible to provide final calibrated STD data using either the intermediate data obtained from digital tape or manual digitization.

It is important to stress that during the entire calibration procedure, uncorrected depths were used as the basis for determining the delta values for temperature, salinity and depth.



### CTD Calibration Procedures

Due to the differing natures of the STD and CTD, calibration procedures vary considerably. Mechanically the systems are similar. Each consists of a conductivity cell, temperature and depth sensors. The difference lies in the sensor output and the electronics controlling it.

In the case of the CTD, all three sensors measure values independently and are recorded as such. Salinity, however, is a complex function of conductivity, temperature and pressure (depth). Therefore, a value for salinity must come from the instrumentation of the STD itself. In the Plessey systems, this is accomplished by the use of two sets of temperature and depth sensors; one set providing only temperature and depth values to the surface deck unit, the other set providing data internally and which will be processed with conductivity to produce salinity. It is because of this second set of sensors that the complex equation for salinity, which is non-linear with respect to temperature, contains the lag corrections of equations (1) and (2). (It is assumed in data reduction that the two sets of sensors function identically. The validity for this is borne out in practice and previous experience with Plessey STDs). On the other hand, the conductivity cell of the CTD, being independent, has a rapid response time of 0.01 sec. (Plessey operations manual) and so a lag correction similar to equation 2 is unnecessary.

The CTD was used at Camp Caribou from stations 559 to 852 inclusive. However, the evaluation of the time lag constant,  $\tau$ , proved to be difficult. Unfortunately, the field operator consistently chose to stop the CTD at the base of the uptrace. Only a few stations in the CTD data set allowed some estimate of the  $\tau$  constant to be made at a value of 0.5 sec.

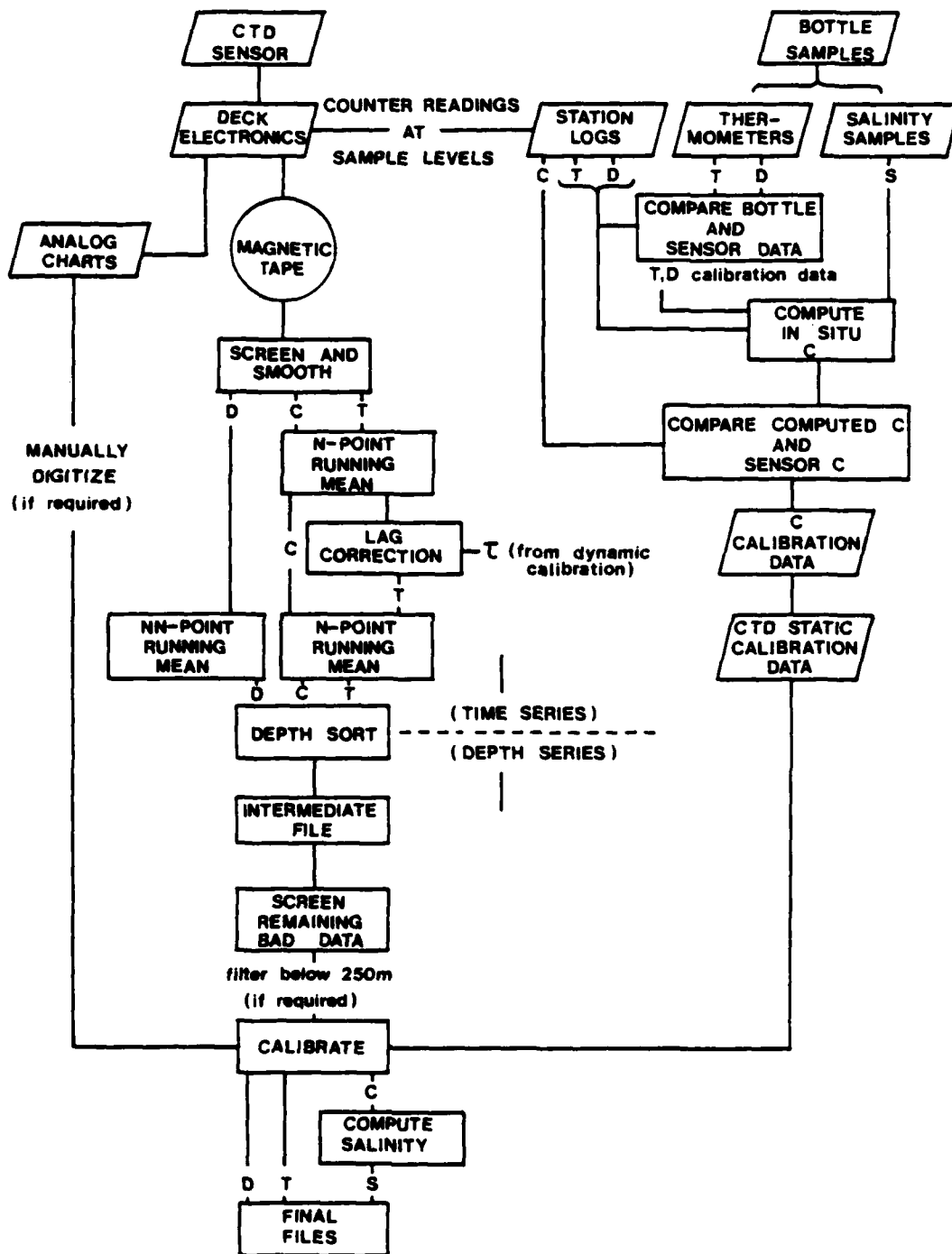


Figure 9 - CTD Calibration Flow Diagram.

Figure 9 is the flow diagram for the CTD data reduction processes. Once the CTD data set had the temperature lag correction applied and had subsequently been sorted for increasing depth, corrections to the data on the basis of bottle information were required before final calibration could be completed.

Temperature and depth calibration does not differ from that described in the STD Calibration Procedures; however, the final correction equations had to be supplied before the conductivity sensor could be calibrated.

The problem of conductivity calibration is two-fold; 1) to convert bottle data salinities obtained from the salinometer to in situ conductivities, and 2) to insure continuity between Plessey and salinometer conductivities before comparison.

To convert salinometer derived salinities to conductivities at the correct temperature and pressure observed by the sensor, the selection of a transfer equation as shown by equation 4 was necessary:

$$c = f(s, t, p (z)) \quad (4)$$

where     $c$  = conductivity  
          $s$  = precise measurement of salinity (salinometers)  
          $t$  = actual temperature of water at depth  $z$   
          $p$  = pressure at depth of observation,  $z$

All AIDJEX salinity data are ultimately based on lab salinometer results as computed by the UNESCO formulation (Cox et al, 1967). Because pressure effects and temperatures less than 10°C are not included in the International Tables, some other formulation for the conversion of in situ conductivity to salinity was required.

Walker and Chapman (1973) compared several of the more widely used conductivity-to-salinity equations used in the field of oceanography today. Unfortunately, as of the time of this publication, no standard formulation has been adopted by the world community although progress towards this has begun.

The Ribe-Howe equation with the low temperature correction by Dauphinée (Walker and Chapman, 1973), was chosen for the following reasons:

1. It agrees more closely with the UNESCO values in the range of the AIDJEX data set.
2. It claims accuracy of 0.01 ppt and extends deeper (7000 db) than others so it can be safely applied to the few deep 3000 meter stations
3. It can be rapidly computed.
4. No effort needs to be made to compensate for the discrepancy between Ribe-Howe and the UNESCO equations. The magnitude of the errors in the range of 25-35 ppt is less than 0.001 ppt.

Bottle data and counter readings were placed in permanent files in the computer as described previously in the section STD Calibration. Final equations for the calibration of temperature and depth were calculated prior to the conductivity calibration procedure. These values were required as input parameters to the reversed Ribe-Howe equation to accurately provide the in situ conductivity given the precise values of salinity, temperature and the depth of observation.

Delta values still could not be calculated because of the different values of absolute conductivity used by the Plessey sensor and the Ribe-Howe equation. In order to transfer the Plessey conductivity of  $C(35,20,0) = 47.891$  mmho/cm to a conductivity in terms of the Ribe-Howe formulation,  $C(35,20,0) = 47.917$  mmho/cm, conductivity data produced by the Plessey CTD were multiplied by the ratio of the two values.

$$C_{\text{corr}} = C_{\text{ctd}} \times 1.0005429 \quad (5)$$

where  $C_{\text{corr}}$  = corrected conductivity  
 $C_{\text{ctd}}$  = observed conductivity of sensor

Delta values in conductivity were then calculated for all the bottle data in the CTD set. Once the calibration polynomial had been formulated for conductivity, it became a straightforward process to calculate salinity-temperature-depth data from the intermediate CTD data. The order of progression is very important and is as follows:

- a) correct temperature to produce final temperature,  $t_f$
- b) correct depth to produce final depth,  $d_f$
- c) calculate  $C_{\text{corr}}$  as in equation 5
- d) correct  $C_{\text{corr}}$  to produce final conductivity,  $c_f$
- e) compute salinity by Ribe-Howe using  $t_f$ ,  $d_f$ ,  $c_f$

Final conductivity values were not saved during the processing and are therefore not reported.

#### Optional Filtering Below 250 Meters

Approximately twenty-one percent of the total STD data required some type of additional filtering and smoothing due to above average noise in the temperature and salinity channels. This problem was confined to depths greater than 250 meters. The cause of the noise is not well understood, but is believed to be related to some vibration effect on the components of the STD with an increase in the rate of lowering. This effect has also been considered by shipboard operators of the Plessey STD system.

It is not believed to be caused by the deck instrumentation since both digital tape data, as well as analog traces indicate excessive noise levels even though they operate from essentially different circuitry. In some instances, the effect was so severe that the station data below 250 meters might well have been discarded if further filtering and smoothing had not been applied.

The decisions as to the filtering and smoothing were subjective and were based upon the comparisons of previous stations and the severity of the noise. The several options available as to the filtering used on individual stations were:

1. Only temperature-filtered within a specified depth interval.
2. Only salinity-filtered within a specified depth interval.
3. Both temperature and salinity-filtered within a specified depth interval.
4. Provide values from a sliding least squares best fit quadratic equation with 30% of overlapping in each subsequent fit.
5. Clip the original data with a preset tolerance of  $\pm .006$  ( $^{\circ}\text{C}$  or ppt).

If the station data had small discrete depth intervals in which the noise occurred, the section or sections were deleted rather than using the options to filter the entire trace. In the case where noise was extreme, the affected segment of data was replaced in its entirety with data obtained by the overlapping least squares best fit equations as described in option 4 and 5.

In the various listings in the data report, information is given as to whether a station has been filtered below the depth of 250 meters, although the type of filtering is not indicated. Better than 90% of the filtering done on the data involved salinity only with filtering as indicated by options 4 and 5.

### Subsequent Processing

Even though salinity, temperature and depth had been converted into final calibrated data, errors still existed. A combination of several checks involving the plotting of the data in various forms and the sorting of various parameters revealed errors that were previously unnoticed.

The deletion of data while the sensors were in the hydroholes and the addition of weather and position information for the individual stations was also a part of this procedure.

T-S diagrams were employed on large groups of stations to show stations which deviated from the mean. Stations that were flagged in this manner were rechecked for validity. If the data turned out to be in error and the error resulted from processing, the station was reworked from the point at which the error occurred.

Nested temperature and salinity traces were also plotted (as shown in this report) to observe stations that did not follow the mean trends of the other plotted profiles. If a station was considered questionable, the original analog chart was used as the basis for the deletion or acceptance of the profile. Deletions of segments of data were most common in this part of processing because of random spiking that was not removed during initial processing. The deletions are seen as gaps in the data and usually span less than 10 meters.

Sequential sorting of the recorded dates and times of the stations at one camp was also done. Stations that were shown to be out of order were corrected and resubmitted to the data set.

Temperature and salinity values taken while the sensor was in the hydro-hole were then removed from all data sets of the respective camps. The depths to which this was done at each camp are listed in Table 3.



TABLE 3

Sea Ice Thickness of Hydroholes at the Four Manned Camps

<u>Camp</u>	<u>Ice Thickness (cm) Below Sea Level at Hydro-hole</u>
Caribou	300
Blue Fox	470
Snowbird	340
Big Bear	250

As a final indication of the quality of the salinity and temperature data, averaged values of the bottle and reversing thermometer at the various sampling depths are shown on the profiles.

# ACCURACY OF THE DATA

Tests were run to determine the accuracy of the DDL and manually digitized STD data. The bottle data were used as the standard against which the final salinities and temperatures were checked. For each camp, the final salinity and temperature data were subtracted from the observed bottle data at the various tripping depths. Differences were grouped into two sections - DDL data and manually digitized data. Table 4 compares the mean salinity and temperature differences and the associated standard deviations for the four manned camps for each section.

TABLE 4

## Means and Standard Deviations of Salinity and Temperature Differences for the Four Manned Camps

<u>Camp</u>	<u>Data Type</u>	<u>Salinity</u>	<u>Temperature</u>
Caribou	DDL	$0.0 \pm 0.015$	$0.002 \pm 0.024$
	Manual	$0.005 \pm 0.027$	$0.014 \pm 0.041$
Blue Fox	DDL	$0.002 \pm 0.001$	$0.019 \pm 0.051$
	Manual	$0.020 \pm 0.025$	$0.007 \pm 0.037$
Snowbird	DDL	$0.002 \pm 0.047$	$-0.006 \pm 0.034$
	Manual	$0.006 \pm 0.034$	$-0.024 \pm 0.056$
Big Bear	DDL	$0.008 \pm 0.022$	$0.030 \pm 0.044$
	Manual	$0.013 \pm 0.050$	$0.005 \pm 0.059$

## METEOROLOGY DATA

Surface observations and digital recordings of meteorological sensors at a fixed height above the surface of the ice were maintained continually at each of the AIDJEX manned camps.

From the original data, hourly averages of surface barometric pressure, wind speed and direction at 10 meters and air temperatures at 2 and 9 meters above the surface were obtained from the AIDJEX data bank.

Data that were closest in time to each station were recorded with the station in permanent files on the computer. In the header information associated with each station in this report, values of temperature at 2 meters, surface barometric pressure and 10 meter wind speed and direction are reported. Blanks imply no available data for that particular parameter.

## POSITION ESTIMATES AND ASSOCIATED ERRORS

Filtered and smoothed estimates for position and velocity through time were recently updated for all of the AIDJEX 1975-76 manned camps (Thorndike and Manley, 1980), to provide better resolution for inertial oscillations of the ice motion. The initial Satellite Navigation report (Thorndike and Cheung, 1977) indicated signal reduction in the data at the inertial period due to filtering of approximately 50% and was, therefore, not acceptable for the reduction of certain parts of the oceanographic data set.

Position estimates were not regularly spaced in time nor were they at the times when the STD or PCM stations were started. Therefore, it was necessary that some software routine be constructed in order to give reliable estimates of the position and ice velocity at the times of the stations in question.

Normally, 25-30 position fixes were recorded per day at each of the four camps. The maximum number of fixes per day was close to sixty, and the minimum was zero for a period of approximately five days. With these wide variations in the spacing of the data, it became important to estimate the standard error associated with the calculated positions and velocities. These error estimates would then later become useful in the determination of the station's relative importance for a particular application. Typical examples would be the rejection of an STD station (position error of 1000 m) intended to be used in a geostrophic calculation where the inter-station spacing is on the order of 2 kilometers, or relative velocity PCM stations being rejected for absolute data processing when the ice velocity error was exceedingly high. Regardless of the intended application, error estimates for both positions and velocity are an integral part of the data set.

There are several methods to determine the position of a given camp at a particular time, given precise estimates of the position and velocity before and after the time in question. The methods range from a simple approach of choosing the position fix closest in time to the station in question, to more involved interpolation schemes.

Due to the presence of small to intermediate scale structures observed in the AIDJEX oceanographic data set, precise position and ice velocity estimates were required to resolve them as best as possible. By defining a smooth and continuous time dependent function -  $X(t)$  - of a positional parameter such as latitude or longitude, four boundary conditions were initially provided by the navigation data set. These known conditions were  $X(t_1)$ ,  $X(t_2)$ ,  $X'(t_1)$  and  $X'(t_2)$ ;  $t_1$  and  $t_2$  indicate different observation times, and  $X'$  indicates the first derivative (velocity). In order for the function  $X(t)$  to be uniquely defined,  $X(t)$  by definition must be cubic.

Once the time of the station was provided, cubic equations for both latitude and longitude were defined using the navigations points of latitude, longitude and north and east ice velocities directly before and after the station time in question. Position and ice velocity were then obtained by substituting the time of the station into the cubic equations and their first derivatives with north and east ice velocities being defined as the first time derivative of latitude and longitude respectively.

Estimates (95% confidence limit) of the errors associated with latitude and longitude are also provided to the user. A more detailed explanation of the errors associated with position, as well as ice velocity is given in any of the AIDJEX profiling current meter data reports (Manley et al, 1980 a, b, c, d).

## OBSERVED FEATURES

The stable ice platform permits the STD to be dropped and raised smoothly without the pumping action usually produced on casts from a rolling ship. Delineation of small scale structures is limited almost entirely by instrument characteristics alone. The AIDJEX data show considerable detail in such interesting oceanographic features as the upper mixed-layer, anomalies of temperature and salinity associated with baroclinic eddies and step structure. Since the STD profiles were continued over an entire year, the seasonal variations in these and other features were recorded. Also, the 100 km array of four (later three) ice stations permits description of the lateral variation of oceanographic features on this scale. The array scale was originally chosen to give information on mesoscale atmospheric effects. It is too large for detailed study of baroclinic eddies and too small for the general circulation. However, the scale does confirm the extent of variations in the mixed layer and in step structure. Baroclinic eddies are only 10 to 20 km in diameter and are observed at only one ice station at a time but some idea of their numbers can be obtained by the frequency of encounter with them.

### Mixed Layer

The behavior of the upper mixed layer was one of the principal objectives to the AIDJEX oceanographic program. This layer of nearly homogeneous water extends, during the winter, from just below the ice to depths of 25 to 60 m. During the summer it disappears as the upper layers become strongly stratified. The aim of the AIDJEX field program was to measure as accurately as possible the forces acting on drifting ice including the frictional drag of the ocean. The degree of homogeneity or stratification of the upper layers has an important effect on water drag. A well-mixed upper layer results in more drag than a stratified layer.

The mixed layer which appears so strikingly in the winter and spring arctic profiles of temperature and salinity (fig. 7) is attributed to brine convection. Heavy brine is released during freezing to sink down to or below its level of equivalent density, overturning and mixing the surface layers as it descends. Most earlier arctic oceanographic stations were taken in winter and spring months. The mixed layer has been generally recognizable in bottle casts although details of its structure and evolution were not available. In the 1972 experiment, the mixed layer was about 35 m deep with a sharp break at that level to a steep gradient in temperature and salinity. The continuous record of a Guildline CTD showed the upper 15 m to be often unstable within the resolution of the instruments. The region from 15 to 35 m, while still having the appearance of a mixed layer, was neutral or slightly stable (Smith, 1974).

Results from the 1975-76 experiment with Plessey STD (CTDs) show that the mixed layer often has slight steps and that the details of the structure are

not coherent over the 100 km array. The mixed layer in the spring of 1975 was about 50 m deep. The small steps in the mixed layer may be due to brine convection beneath a refreezing lead.

Fluid dynamical arguments suggest that such steps are limited to a horizontal extent of about 2 kilometers. Their horizontal scale is limited to approximately the Rossby radius of deformation which is small for such small density differences as these steps in the mixed layer (Stommel, 1969).

There are two principle stirring mechanisms by which a mixed layer may be formed; gravitational convection due to brine extrusion during freezing is usually considered most important, mechanical stirring by ice drift must also play some part. Previous studies have not conclusively shown the relative importance of the two regimes (Solomon, 1973). The two mechanisms should operate on clearly separated horizontal scales with mechanical stirring by drift occurring over the 1000 km scale of the wind field and brine convection occurring over the 1 to 10 km scale of leads.

Few summertime observations were available on the upper layers before 1975. The AIDJEX records show that a continuous steep gradient in temperature and salinity often exists beneath the ice during summer when freshwater runoff from melting ice and snow stratifies the upper layers (figs. 10-13). Since the fresh water is lighter than sea water, it remains on top, stratifying the surface layer. At times the stratification may be less continuous (fig. 13). Figures 12 and 13 were taken on the same day, but at stations about 100 km apart and show the extent of horizontal variability. The amount of snow available for runoff and the number of cracks available for drainage cause this variability.

Figure 14 shows the development of the mixed layer through time. In the late summer, the mixed layer is absent (14a), but begins to develop and deepen



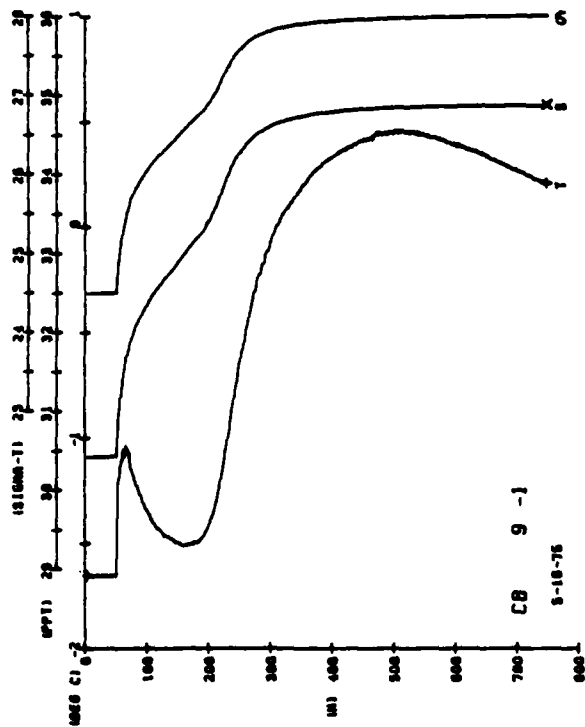


Figure 10 - STD- $\sigma_t$  profile of Caribou Station 9. Figure 11 - STD- $\sigma_t$  profile of Caribou Station 111.

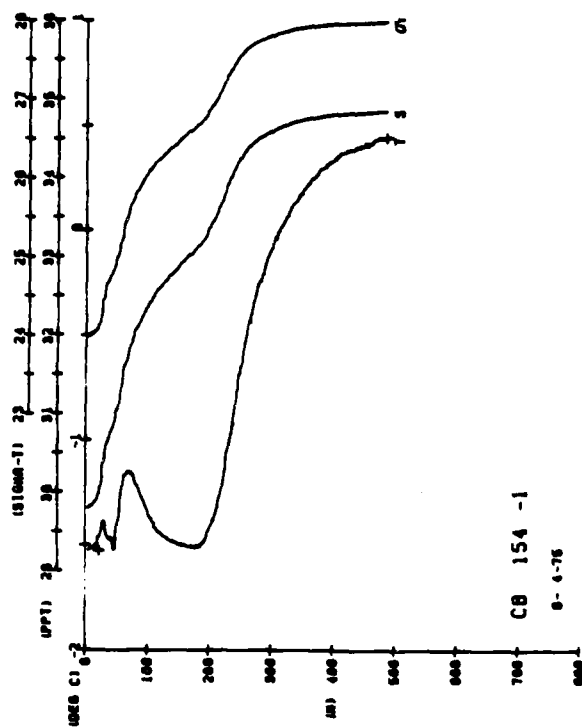
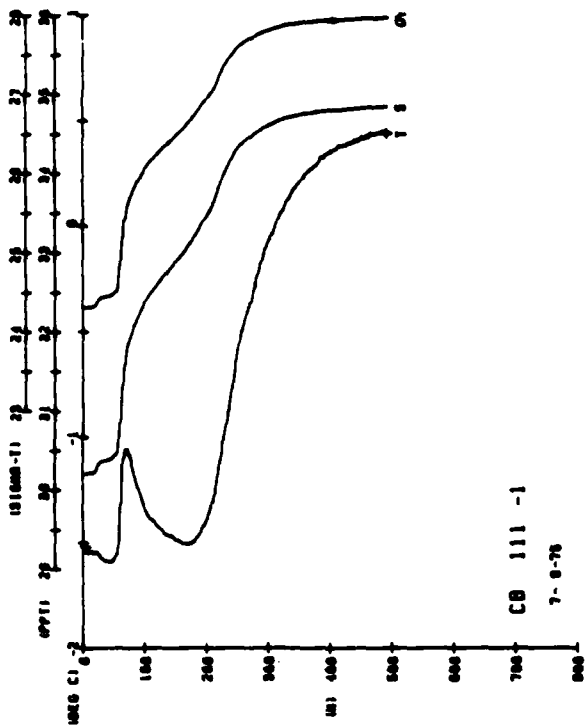
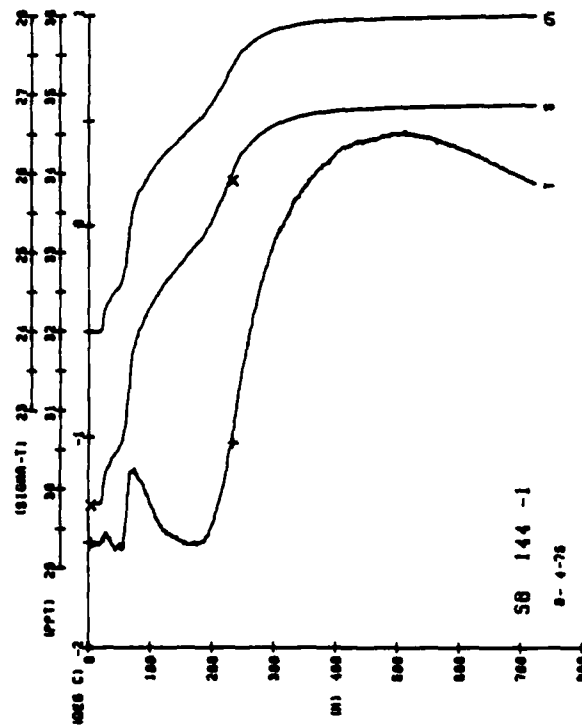


Figure 12 - STD- $\sigma_t$  profile of Caribou Station 154. Figure 13 - STD- $\sigma_t$  profile of Snowbird Station 144.



when the first freezing begins and is about 15 meters deep by September (14b). It continues to deepen slowly, reaching approximately 25 meters in December (14c), and attains a maximum depth of 40-50 meters in late spring (14d). Unfortunately, the experiment did not continue far into the spring of the following year, so an early station from camp Blue Fox is used to show this maximum (14d).

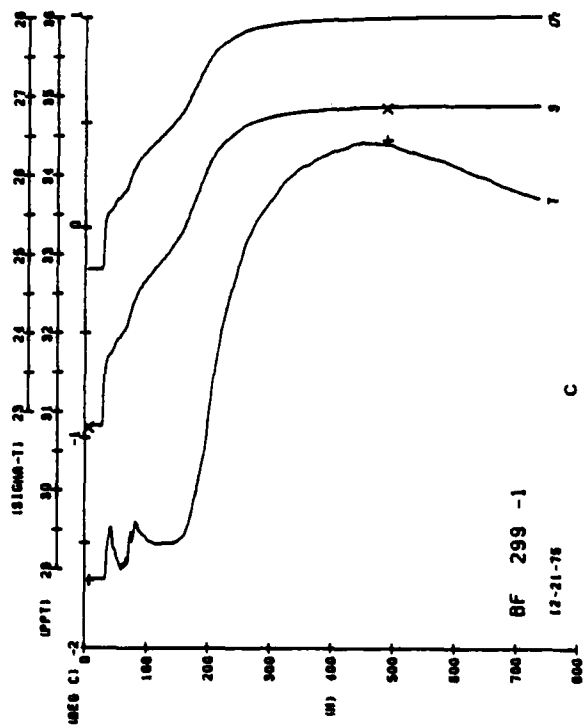
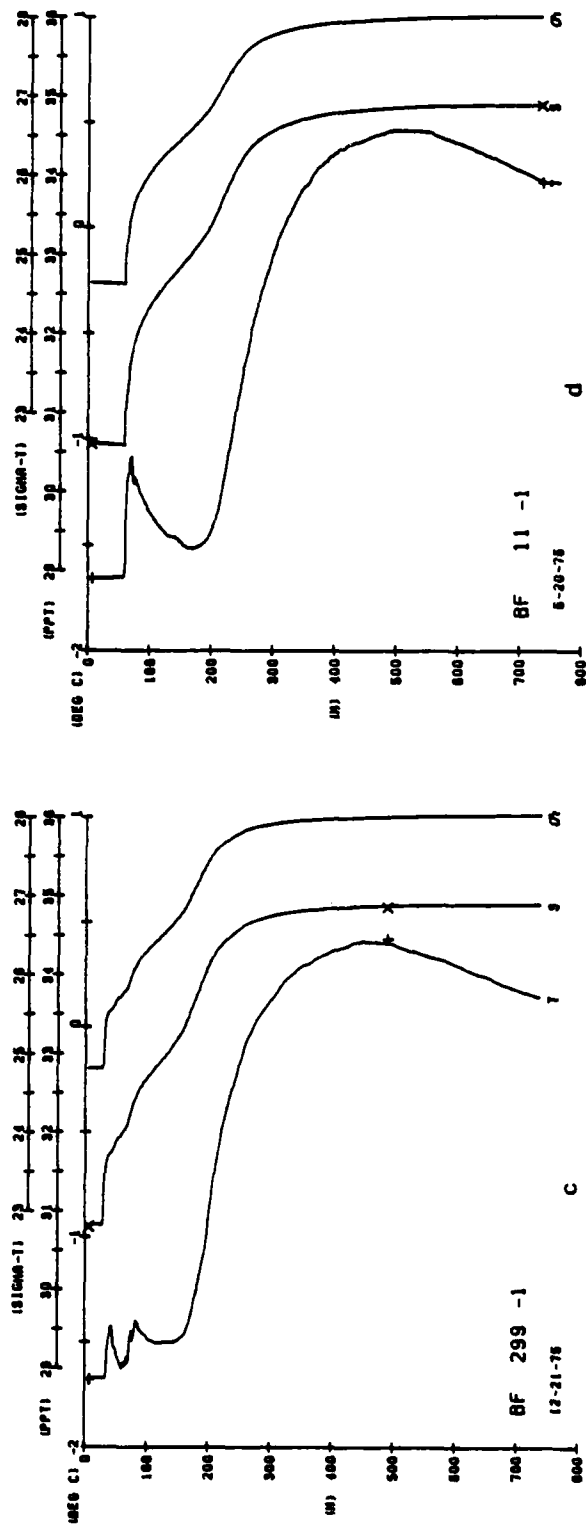
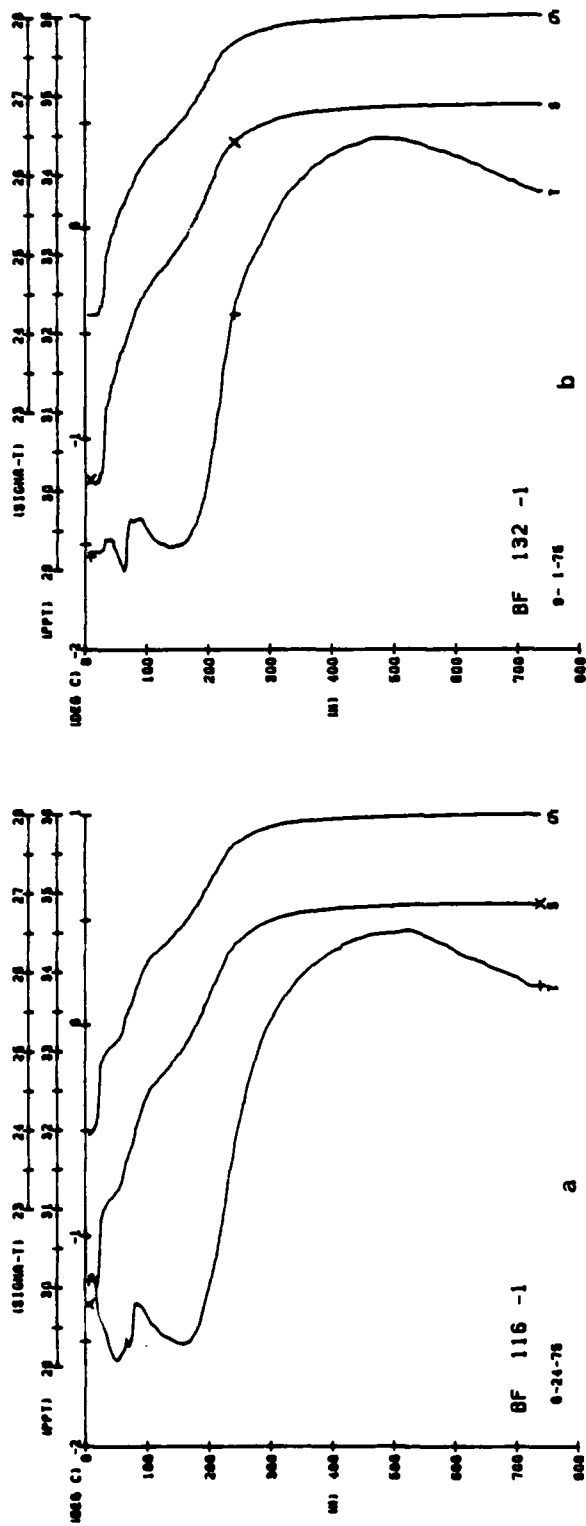


Figure 14 - Development of mixed layer as observed at Camp Blue Fox from late summer to late spring.

### Mesoscale Eddies

One of the unexpected oceanographic results of the 1972 AIDJEX program was the detection of swift subsurface currents localized in the pycnocline. These currents coincided with the region of steepest density gradient between 50 and 300 m. Maximum speeds, found at a depth of about 150 m, reached 60 cm/s. This speed far exceeded the mean current of 1.8 cm/s (Hunkins, 1974 b; Newton, 1973; Newton et al., 1974; Dixit, 1978).

Although there had been observations of transient undercurrents by P.P. Shirshov as early as 1937 (Belyakov, 1972), the details and horizontal extent of the features were not known. In 1972, these transient currents were shown to occur as nearly circular eddies with diameters of 10 to 20 km. Both cyclonic and anticyclonic circulation were observed. The eddies are strongly baroclinic with signatures in both the velocity and density fields. The force balance is nearly geostrophic although centrifugal force is also of some significance since the eddies have such a small radius.

In the main experiment of 1975-76, eddies were detected at all four camps. Examples of current velocity profiles through eddies at the camps are shown in figs. 15-18. They differ from the barotropic wind-driven motions by often occurring when there is little ice motion and by their strong vertical shear.

Previous measurements of temperature and salinity through the eddies have been with discrete sampling by water bottles and reversing thermometers. These are the first eddy studies with the increased detail given by STD profiles. The eddies appear to move more slowly than drifting ice so that a cross-section through one may be obtained as the ice station drifts over it. This happened as the Snowbird station drifted across an eddy. Four successive

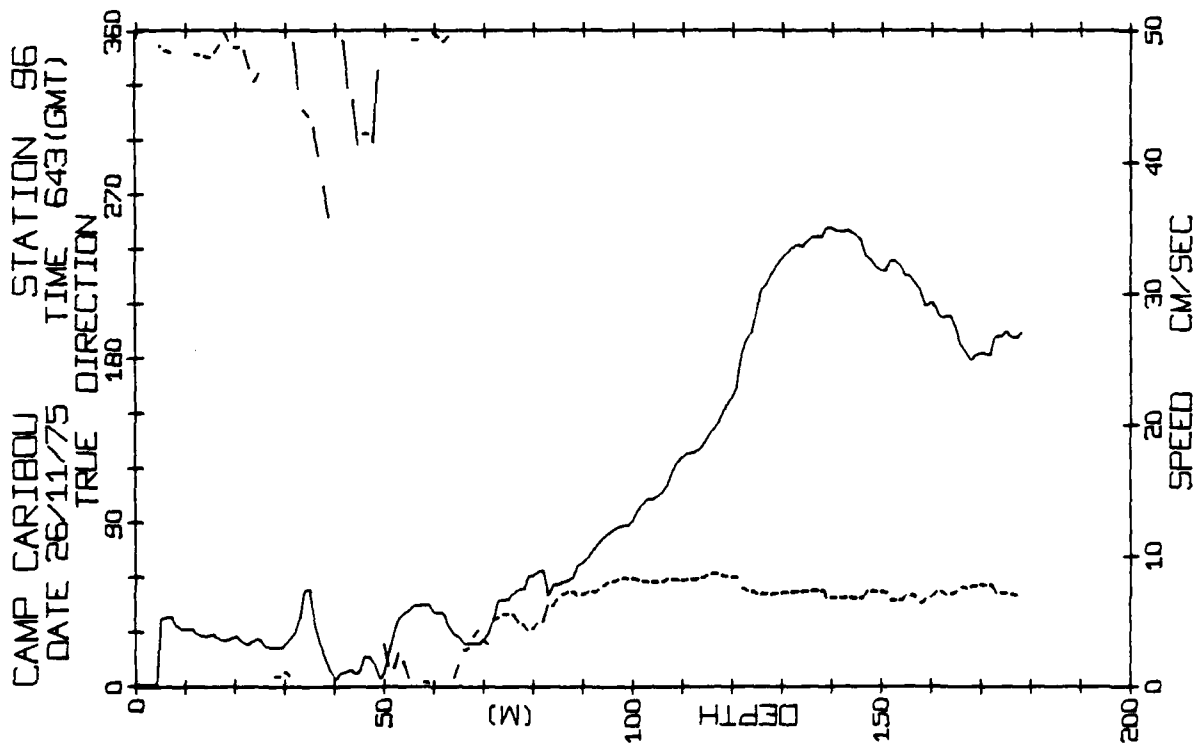


Figure 15 - Vertical velocity profile through an eddy observed at Camp Caribou; dashed line is true direction, solid line is absolute speed.

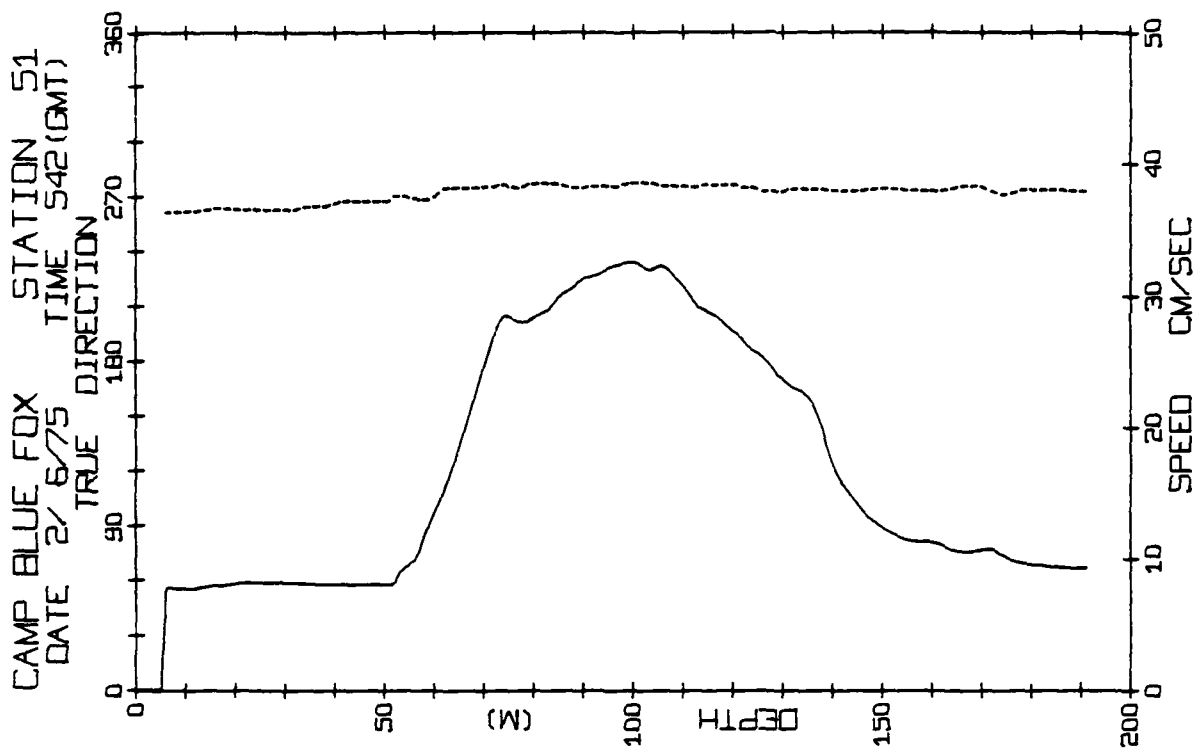


Figure 16 - Vertical velocity profile through an eddy observed at Camp Blue Fox; dashed line is true direction, solid line is absolute speed.

CAMP SNOWBIRD STATION 49  
DATE 30/ 5/75 TIME 2043(GMT)

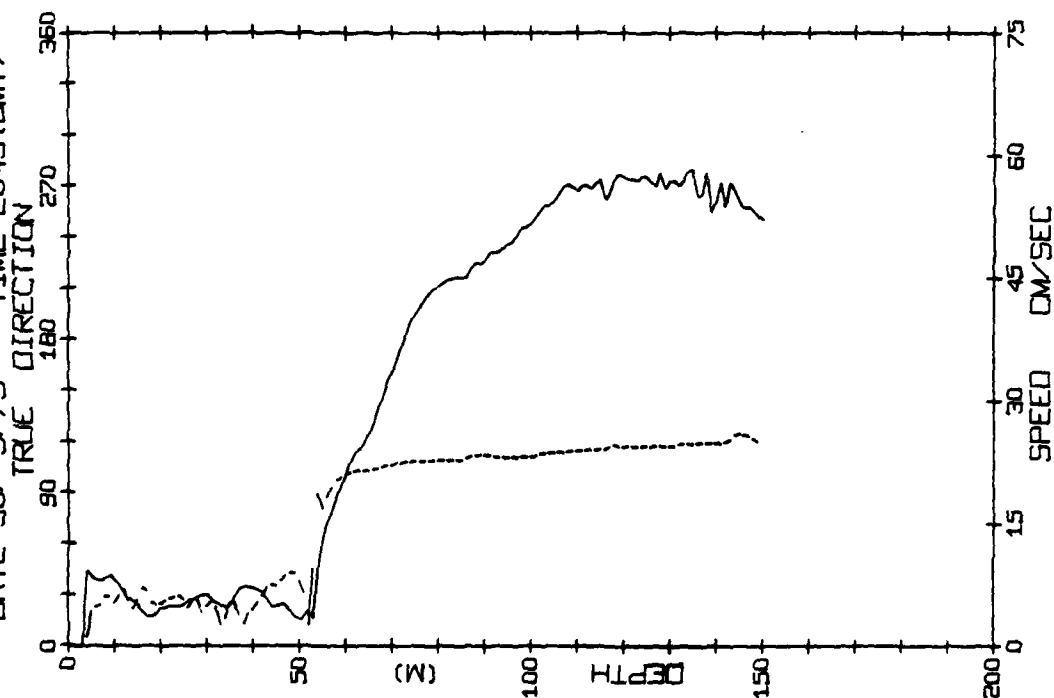


Figure 17 - Vertical velocity profile through an eddy observed at Camp Snowbird; dashed line is true direction, solid line is absolute speed.

CAMP BIG BEAR STATION 154  
DATE 14/ 6/75 TIME 1944(GMT)

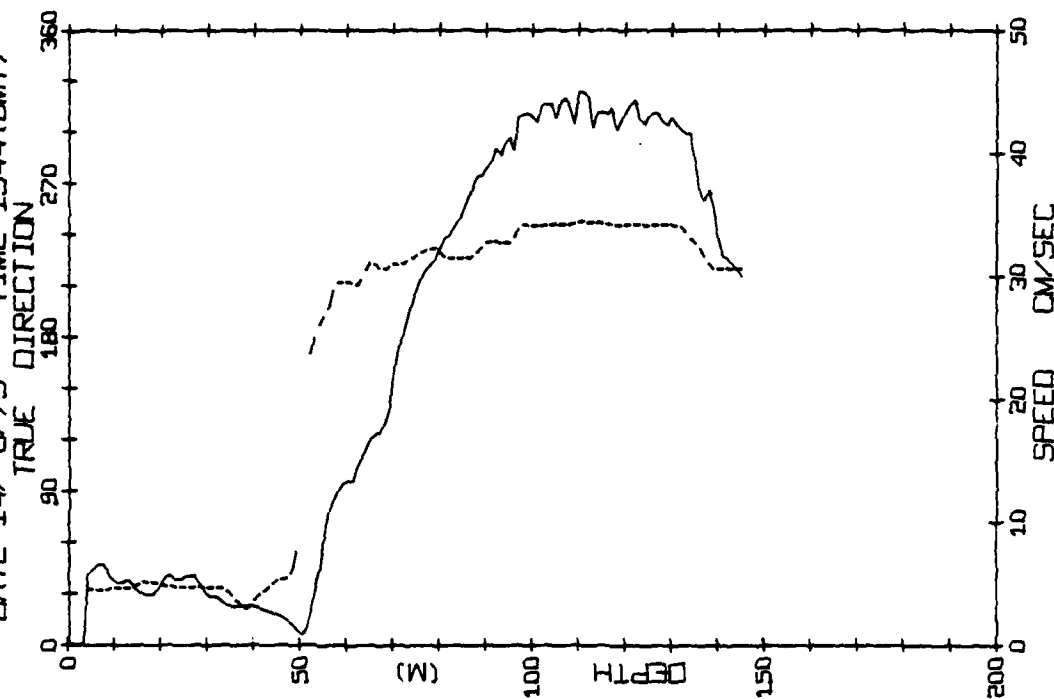


Figure 18 - Vertical velocity profile through an eddy observed at Camp Big Bear; dashed line is true direction, solid line is absolute speed.

profiles on four succeeding days show changes from normal conditions to eddy conditions and back to normal (fig. 19).

In the middle two profiles there is a marked change from the normal temperature and salinity between depths of 100 and 200m, the depth interval of maximum current velocity. Figure 13 shows the velocity profile corresponding to Snowbird station 30 in figure 19.

Measurements with increased time and space resolution have resulted in detection of baroclinic eddies in the Atlantic Ocean where they became the object of detailed study during the United States MODE experiments and Soviet POLYGON experiments. The Arctic eddies differ from the Atlantic ones in two ways. The horizontal and vertical space scales of the Arctic eddies are much smaller, 20 km and 200 m respectively, than those in the Atlantic, 100 km and 4000 m. The depth of maximum velocity within the eddies also differs between the two oceans. Whereas in the Atlantic it is close to the surface, in the Arctic the maximum is definitely below the surface at 80 to 150 m. This appears related to the presence of the ice cover against which the eddy is frictionally dissipated. Thus, the Arctic eddies enlarge the parameter range under which eddies are known to exist.

Prior to the printing of this report, a more detailed study of mesoscale eddies in the Arctic Ocean was recently completed (Manley, 1981). This work contains discussion on their characteristics, origin, and role in the energy, heat and salt balance of the western Arctic Ocean.

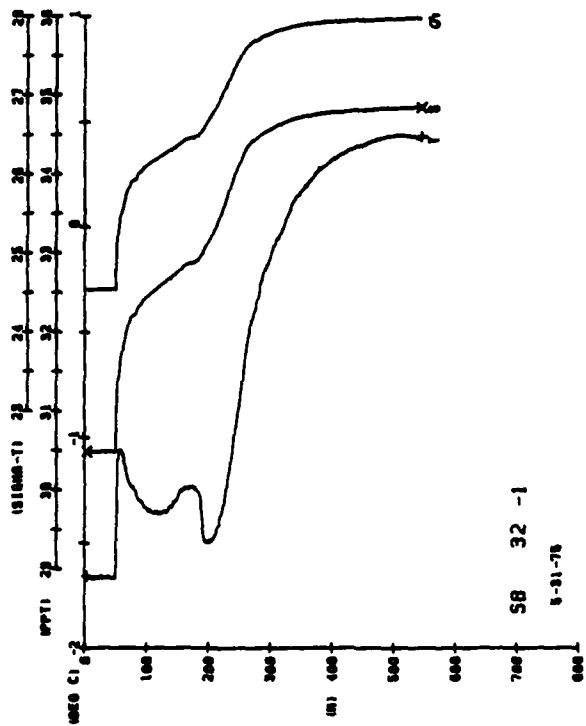
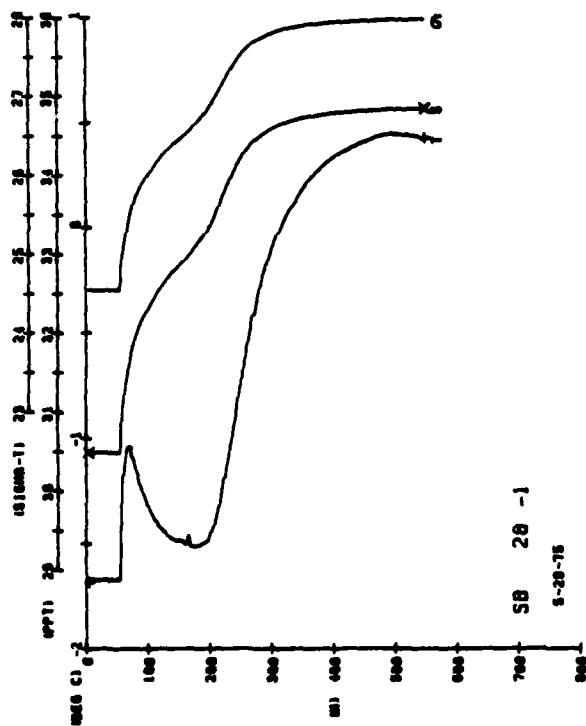
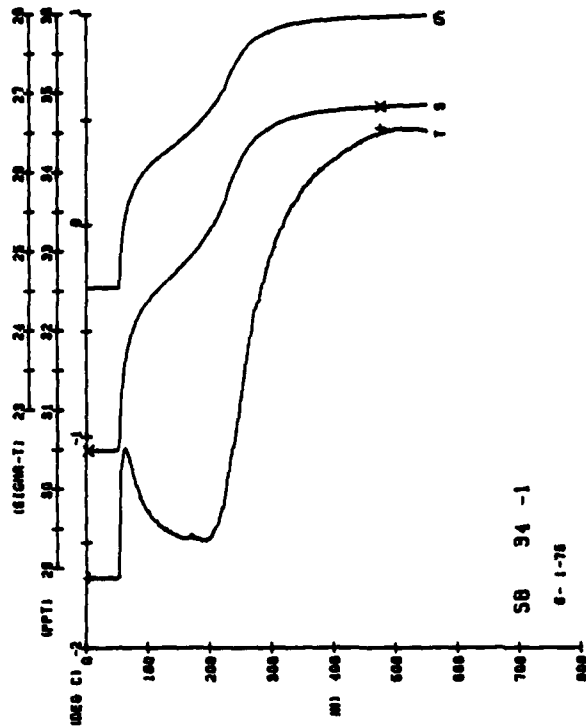
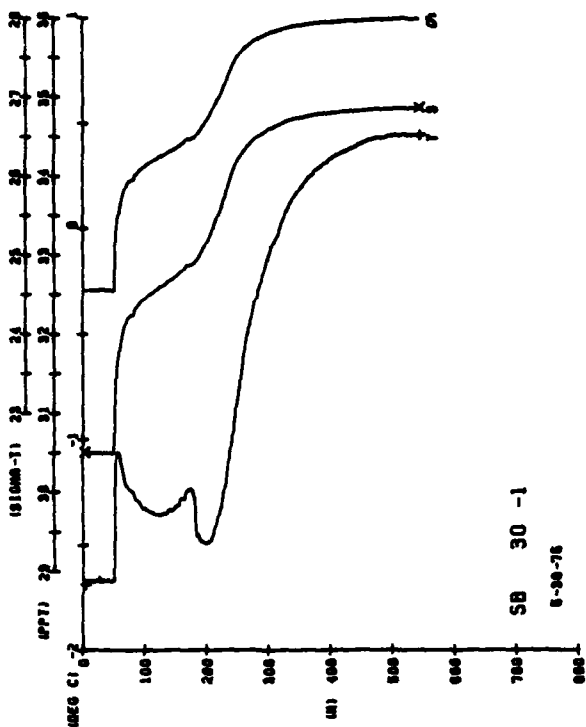


Figure 19 - T-S- $\sigma_t$  observations through an eddy at Camp Snowbird.



### Step Structure

Step structure is a third oceanographic feature which is shown in these STD (CTD) profiles. Arctic Ocean step structure has been reported previously by Neshyba et al., (1971), and consists of homogeneous layers about 3 m thick between depths of 200 to 500 m. The profiles of temperature and salinity taken during the main AIDJEX experiment also show similar features. An example of this step structure is shown in an expanded plot of temperature and salinity taken from STD station number 1 and Camp Snowbird (fig. 20). It was unexpected that such small features should be detected with the model 9040 STD, as it was not designed for microprofiling.

The abundant AIDJEX data should extend our geographical and temporal information on these step structures. It should be noted, however, than only data processed from magnetic tape (processing code = 1; see Table 5) are of a high enough quality to study the features.

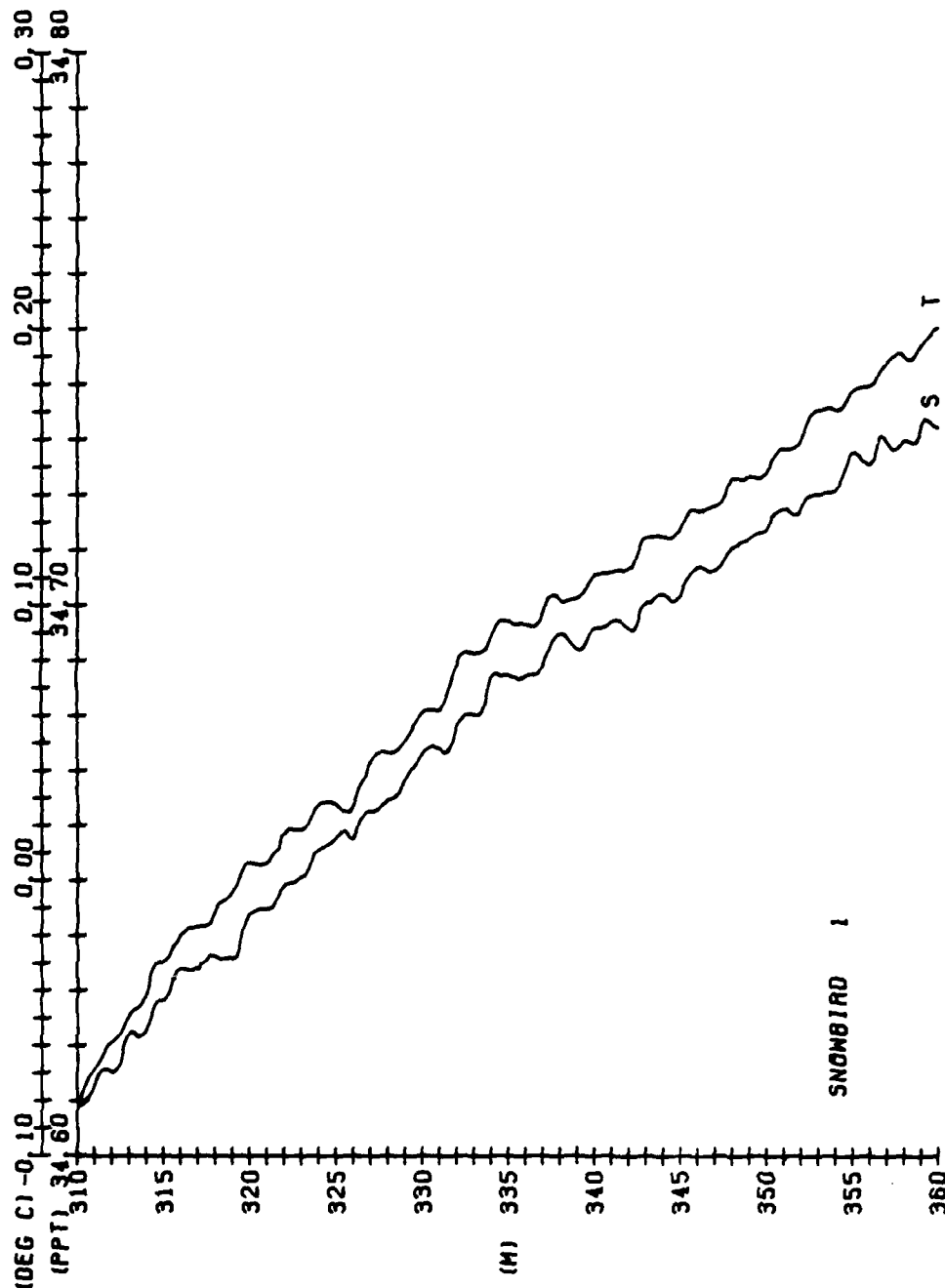


Figure 20 - Step structure through an eddy at Camp Snowbird, Station 1, May 16, 1975.

### Observations of Supercooled Water

On numerous occasions during the AIDJEX program, water temperatures in the surface layers were below the freezing point for their salinity, especially during the months of winter and spring. The supercooling often exceeded  $0.1^{\circ}\text{C}$ . There have been many reports of supercooled waters in the arctic and antarctic oceanographic literature. These observations have been discussed by Doronin and Kheisin (1975) and by Lewis and Lake (1971). The reports of supercooling in polar waters seem to be accepted by the first authors while Lewis and Lake conclude on the basis of experiments and a survey of the literature that supercooling, if it exists at all, is very transitory. They conclude that the presence of ice crystals within the water leads to erroneously low salinity values upon analysis at room temperature and consequent freezing point calculations which are erroneously high.

In the AIDJEX data, the amount of supercooling, which can amount to  $0.1^{\circ}\text{C}$  or better, is too great to attribute to experimental error. The explanation of Lewis and Lake seems more likely to explain the anomalously cold water although no direct experiments were done to confirm the presence of ice crystals. Although the AIDJEX measurements were made by in situ temperature and conductivity sensors, the measurements were calibrated against bottle samples which were raised to the surface and analyzed at room temperature. Thus it is possible that melted ice crystals may have diluted the sample and these observations cannot be taken as serious evidence of supercooling in arctic surface waters.

#### ACKNOWLEDGMENTS

The following persons operated the STD program at the AIDJEX camps:  
Jay Ardai, Bharat Dixit, Allan Gill, Brian Hill, Andreas Nocolades,  
Paul Peltola, Jan Szelag and Roy Wilkens.

## APPENDIX 1

### CONVERSION TABLE FOR AIDJEX DAYS TO CALENDAR DAYS

For the main experiment, AIDJEX adopted a convention of numbering days consecutively, beginning with day 1 = 01 January, 1975 and ending with day 500 = 14 May, 1976.

In the conversion table, the first column is the AIDJEX day, the second is the corresponding day of 1975 or 1976 and the third entry is the calendar date.

[illegible]

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### STATION INFORMATION

In this section is a brief listing of all the stations at the indicated camp along with other pertinent information. A brief list of the terms and their meanings are shown below:

CAMP	Name of manned camp
STAT	PCM station
MODE	1 implies downtrace 2 implies uptrace
DY	Day
MON	Month
YR	Year
TIME	GMT time of station
CODE	Processing code, see table 8
AJXDAY	AIDJEX day (decimal) of station, see Appendix 3
D. MIN	Minimum depth (meters) of station
D. MAX	Maximum depth (meters) obtained at station
LATITUDE	Latitude of station in decimal degrees
LONGITUDE	Longitude of station in decimal degrees (- indicates West longitude)
LT. ERR	Error of latitude position in meters
LG. ERR	Error of longitude position in meters









[illegible]

#### OUTPUT FORMAT OF FINAL DATA

This report consists entirely of salinity and temperature data taken at the AIDJEX manned camp Blue Fox. A Plessey 9040 STD, which provided a majority of the data, was later replaced by a CTD of the same manufacturer. Casts were normally taken to a depth of 750 meters with some extending to 3000 meters.

Station information is provided in three different formats consisting of 1) numerical listings, 2) profiles of temperature, salinity and sigma-t ( $T-S-\sigma_t$ ) with depth, and 3) monthly time series of nested temperature and salinity profiles. In general, two profiles of  $T-S-\sigma_t$  are graphically shown on one page of the data report. On the facing page, the corresponding numerical listings of the stations are shown.

The numerical data consists of other parameters relative to the station and in some cases are abbreviated to save space. A list of the abbreviated terms and their meanings can be found in Table 5. The main body of the numerical listing consists of values of temperature, potential temperature, salinity, sigma-t ( $\sigma_t$ ), specific volume anomaly, dynamic height and sound velocity against various interpolated levels of depth. Since upper surface layer data are omitted from the data set at all camps (the sensor being in the hydrohole), surface readings of temperature and salinity are duplicated from the first data seen in the cast. The first and last data of the station are shown as one of the first values below the depth of 0.0 meters and the last values of the listing respectively.

Some station listings will show nothing for dynamic height. This implies that either the segment of missing data in the profile was too large to interpolate over, or only temperature or salinity data was available and it was impossible to calculate some parameters.



Average values of the bottle data at a particular depth level are also listed at the bottom of the data listing.

Corresponding profiles of temperature, salinity and sigma-t for the station listing are shown on the facing page.

The label at the end of each trace ( $T-S-\sigma_t$ ) indicates the parameter of temperature, salinity and sigma-t respectively. Scales at the upper part of the diagram are labeled to correspond to the parameters and are also shifted with respect to one another to provide the maximum amount of non-interference of traces. Depth is in meters. Station identification and date are in the lower left hand corner in the following format:

CP      STN-MOD  
MONTH - DAY - YEAR

where

CP is the camp identifier

CB = Caribou  
BF = Blue Fox  
SB = Snowbird  
BB = Big Bear

STN is the station number

MOD is the mode

1 = downtrace  
2 = uptrace

Salinity values obtained from the bottle data are plotted on the traces as a "X". Temperature values obtained from the reversing thermometers are indicated on the trace as a "+".

Where station depth exceeds 800 meters, the entire station listing as well as the profile will each take up one full page. The listing from 800 meters on down will occupy the second half of the listing page while the corresponding plot on the facing page will show the entire profile to a fixed limit of 3000 meters. Deep stations are designed in this output format so as not to be split up into two pages. As a result, there may be a few cases where only one shallow station is listed or plotted on one page.

A third type of output format is a series of temperature or salinity profiles to a maximum depth of 750 m nested in one month blocks. These are found in "Results - Section 1". Station numbers at the end of the trace are indicated. All other labeling is self-explanatory.

TABLE 5

Definitions and Meanings of Abbreviated Terms in the Station Listings

Big Bear      First main camp

Caribou      Satellite camp later to become main camp

Blue Fox      Satellite camp

Snowbird      Satellite camp

Station xxx (y)      Station number (xxx) and mode of trace (y) used where:

STD      Station taken with STD y = 1 indicates downtrace

CTD      Station taken with CTD y = 2 indicates uptrace

GMT      Times shown are Greenwich mean time

CODE = I      Processing Code where if I =

A) 1 → 5 profile contains both temperature and salinity data.

- 1) data from magnetic tape
- 2) data from manual digitization of analog charts
- 3) subsequent filtering below 250 m in salinity only
- 4) subsequent filtering below 250 m in temperature only
- 5) subsequent filtering below 250 m in both temperature and salinity

B) 11 → 13, profile is in salinity only

- 11) data from magnetic tape
- 12) data from manual digitization of analog charts
- 13) filtered below 250 meters

C) 21 → 23, profile in temperature only

- 21) data from magnetic tape
- 22) data from manual digitization of analog charts
- 23) filtered below 250 meters

LAT Latitude in decimal degrees N (North)

LONG Longitude in decimal degrees, W (West)

TABLE 5 (cont'd.)

LTER	Estimate of positional error for latitude in meters
LGER	Estimate of positional error for longitude in meters
AIR TEMP	Air temperature in degrees C at 2 meters above surface of ice
BAROM	Barometric pressure in millibars, taken at surface
WIND	Wind direction in degrees true north, taken at 10 meters above surface of ice
SPEED	Wind speed in meters/sec., taken at 10 meters above surface of ice

#### LISTING PARAMETERS

DEPTH	Depth in meters
TEMP	Temperature in degrees C
PTEMP	Potential temperature in degree C
SALIN	Salinity in parts per thousand
SIG T	Sigma-t density where: density ( $\rho$ ) = $1.0 + ((\text{Sig T}) * 1000.0)$
SPVOL	Specific volume anomaly ( $\times 10^{-5} \text{cm}^3/\text{gm}$ )
DYNHT	Dynamic height (dynamic meters)
SOUND	Sound velocity in meters/sec., calculated from Matthews equation

#### BOTTLE DATA LISTING

DEPTH	Depth in meters at which bottle was tripped
TEMP	Average temperature of reversing thermometers in degrees C
SAL	Determined salinity of water sample taken at depth indicated, in ppt.

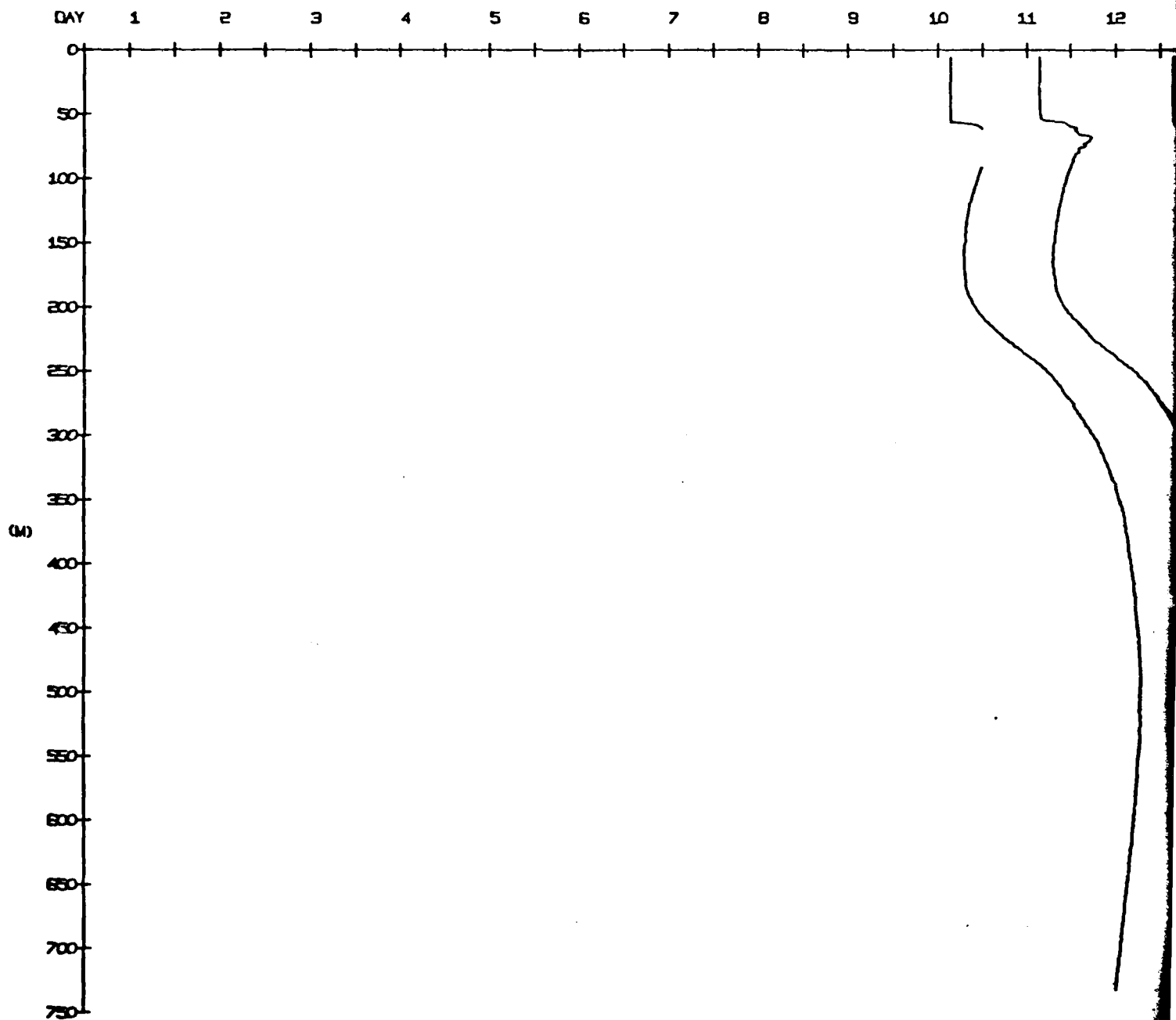
## RESULTS

### Section 1 (Nested Vertical Profiles)

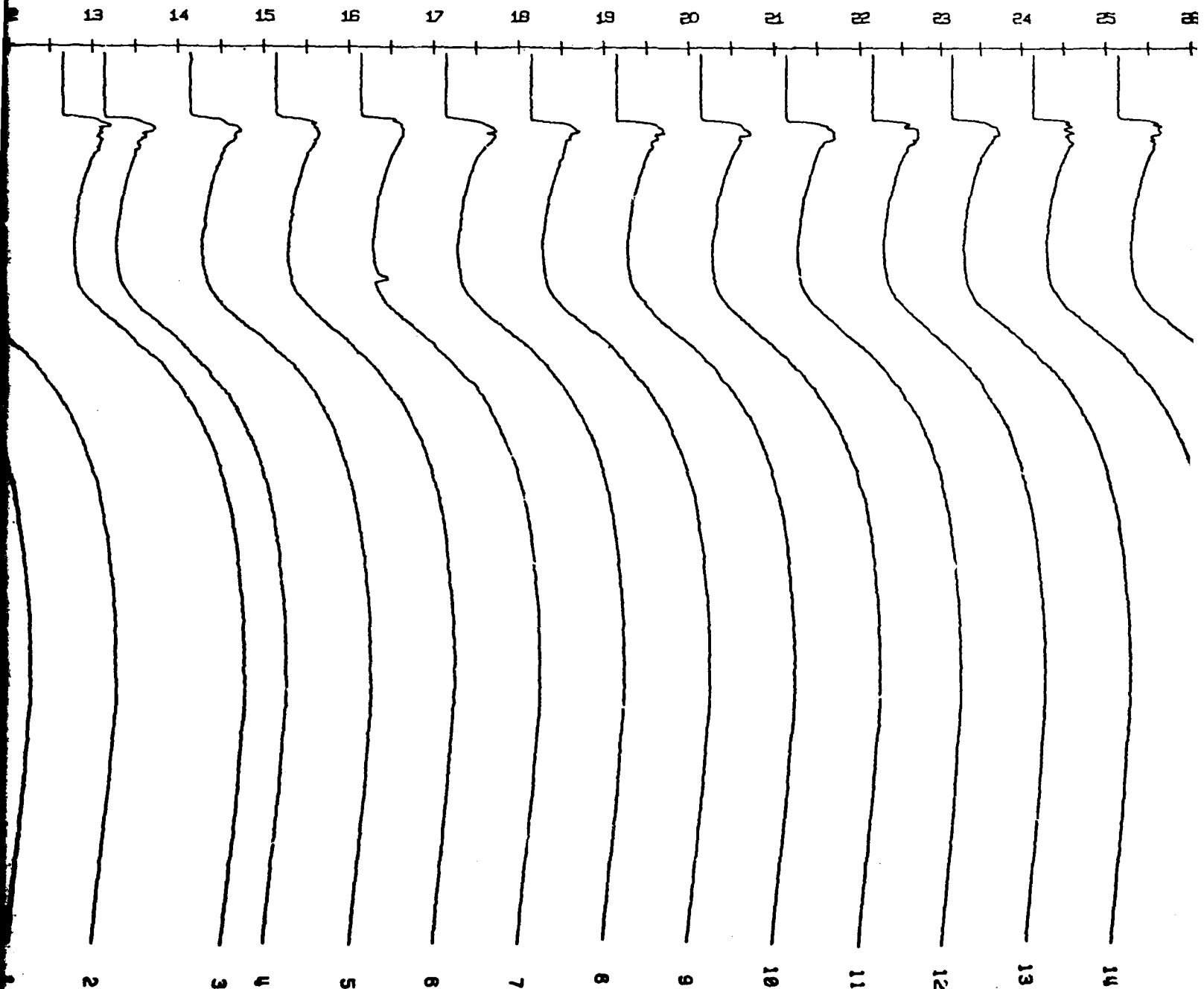
This section contains the plots of temperature and salinity to a depth of 750 meters nested into a monthly time series.

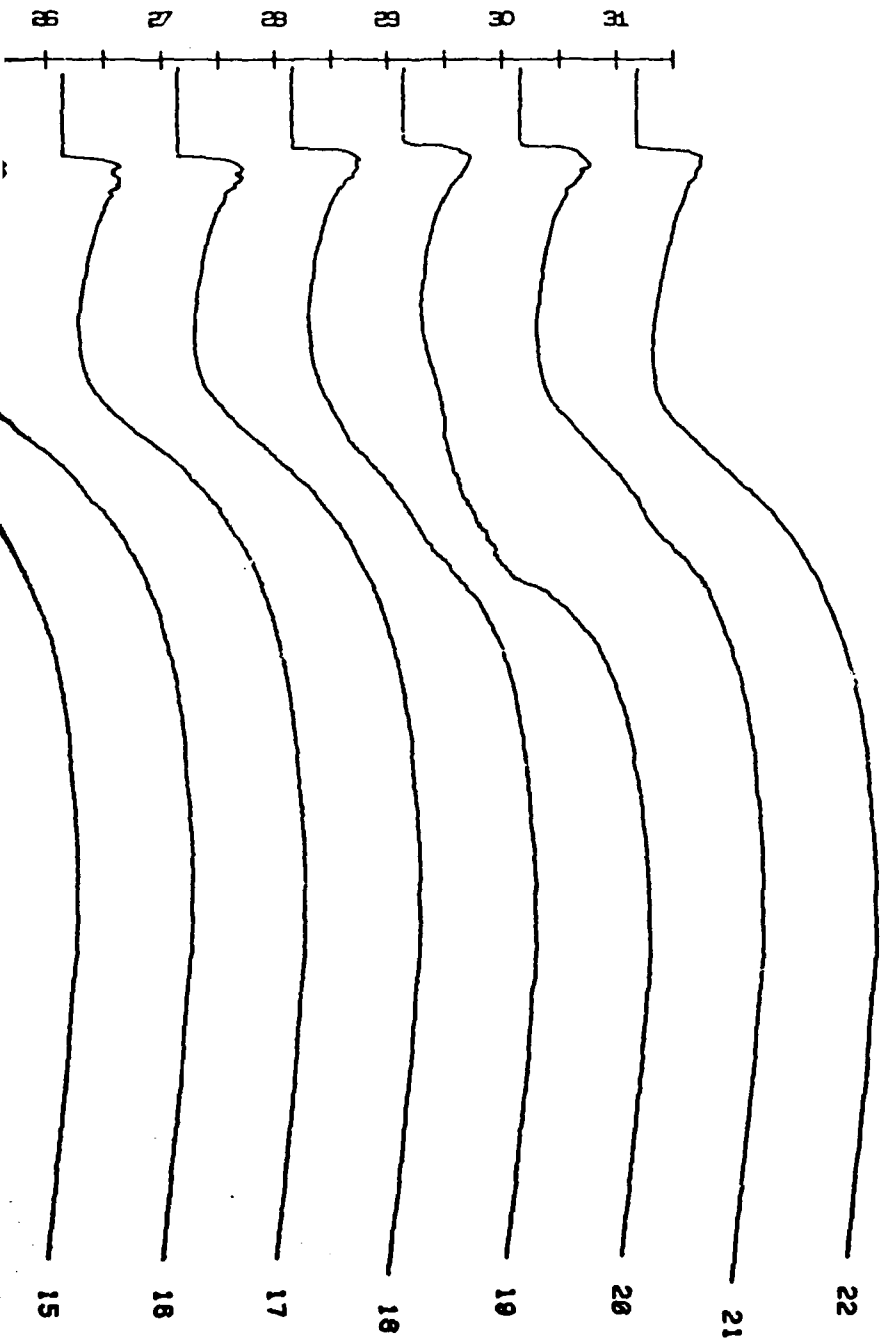
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- EACH PROFILE PLOTTED WITH RESPECT TO LEFT DIVISION MARK (-1.8 DEG. C.)
- TEMPERATURE SCALE SHIFTS RIGHT 1 DIVISION ( 0.5 DEG. C.) PER HALF DAY



TEMPERATURE PROFILES AT CAMP BLUE FOX  
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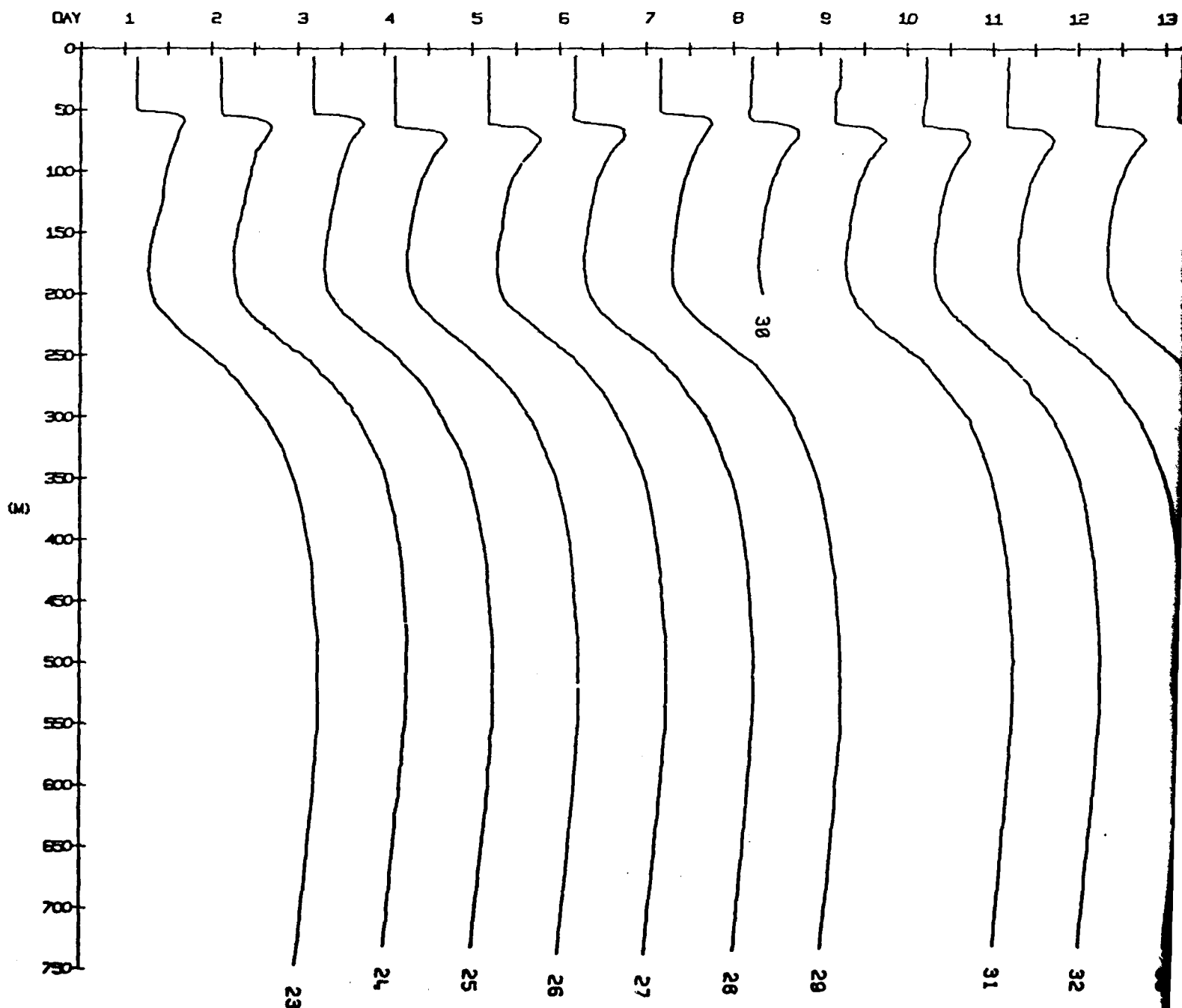




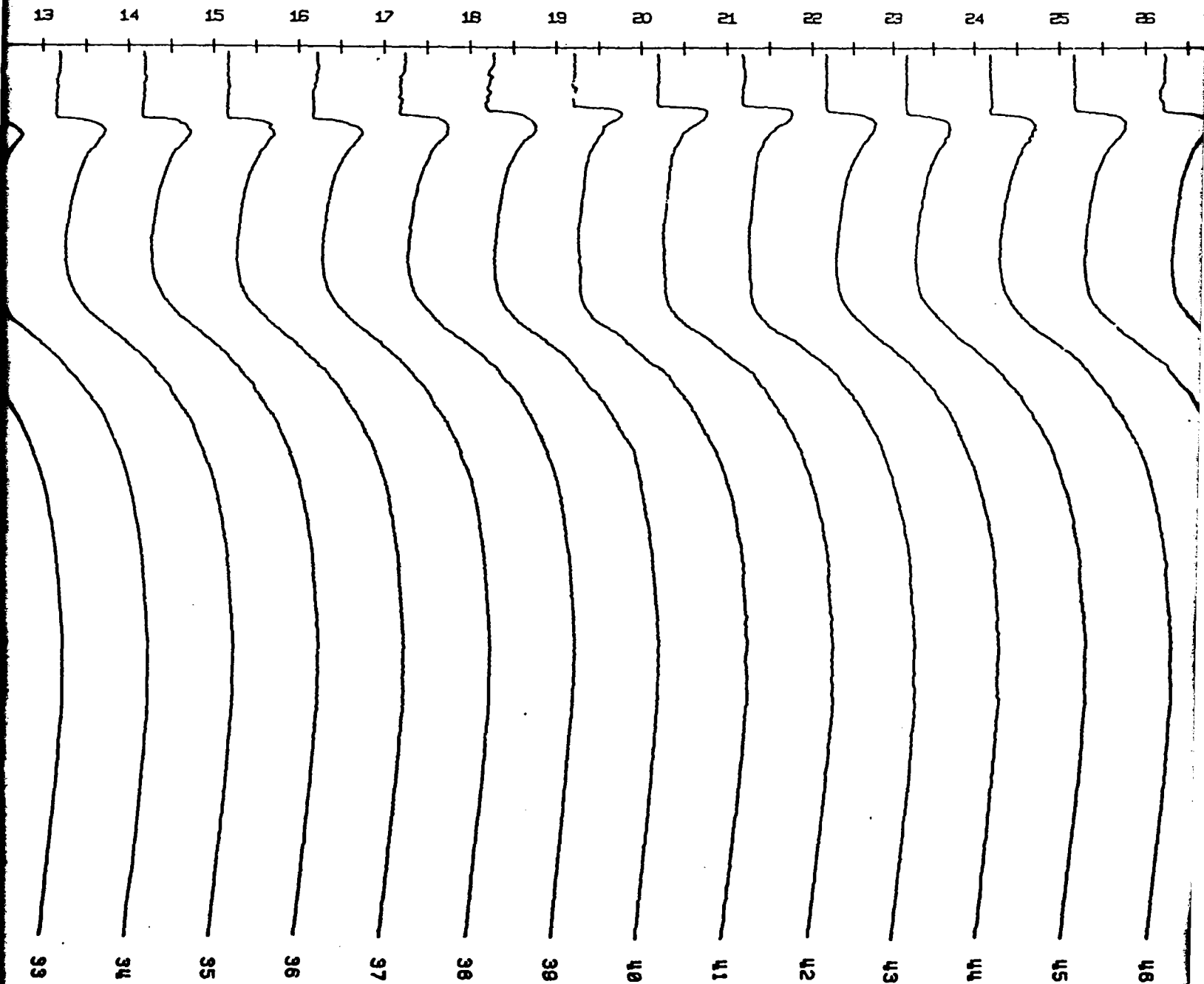


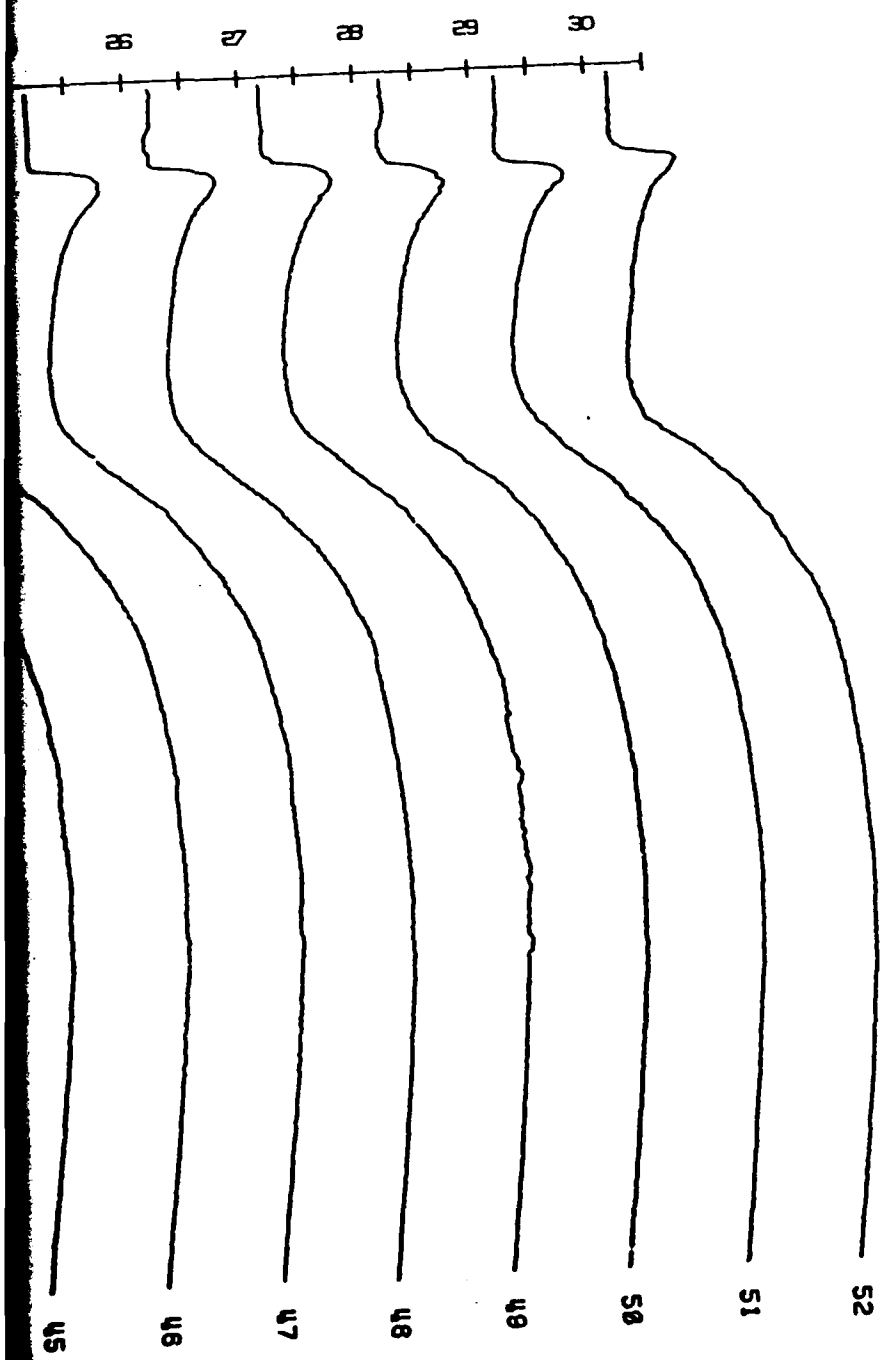
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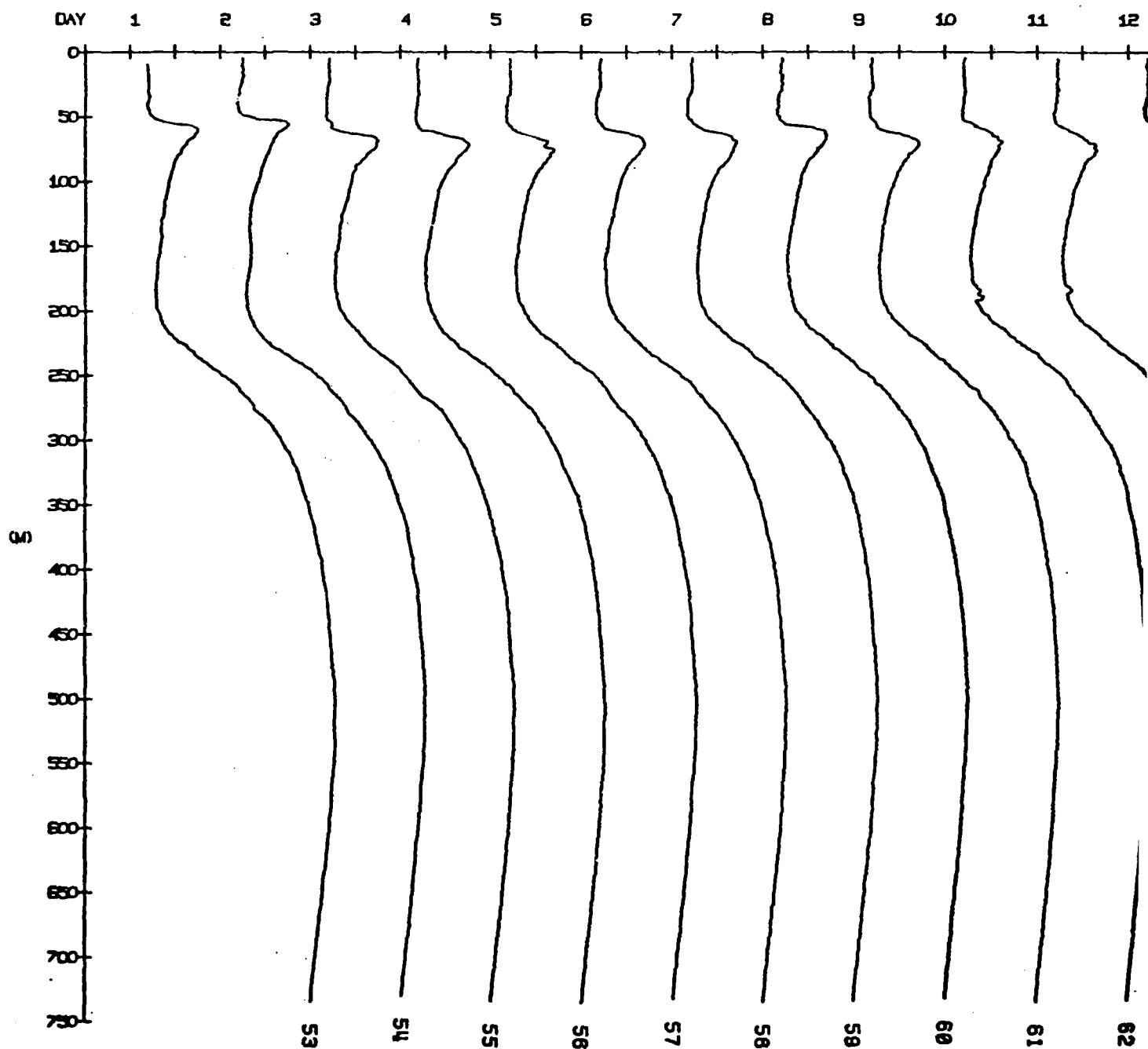


TEMPERATURE PROFILES AT CAMP BLUE FOX  
JUN 1, 1975 TO JUN 30, 1975

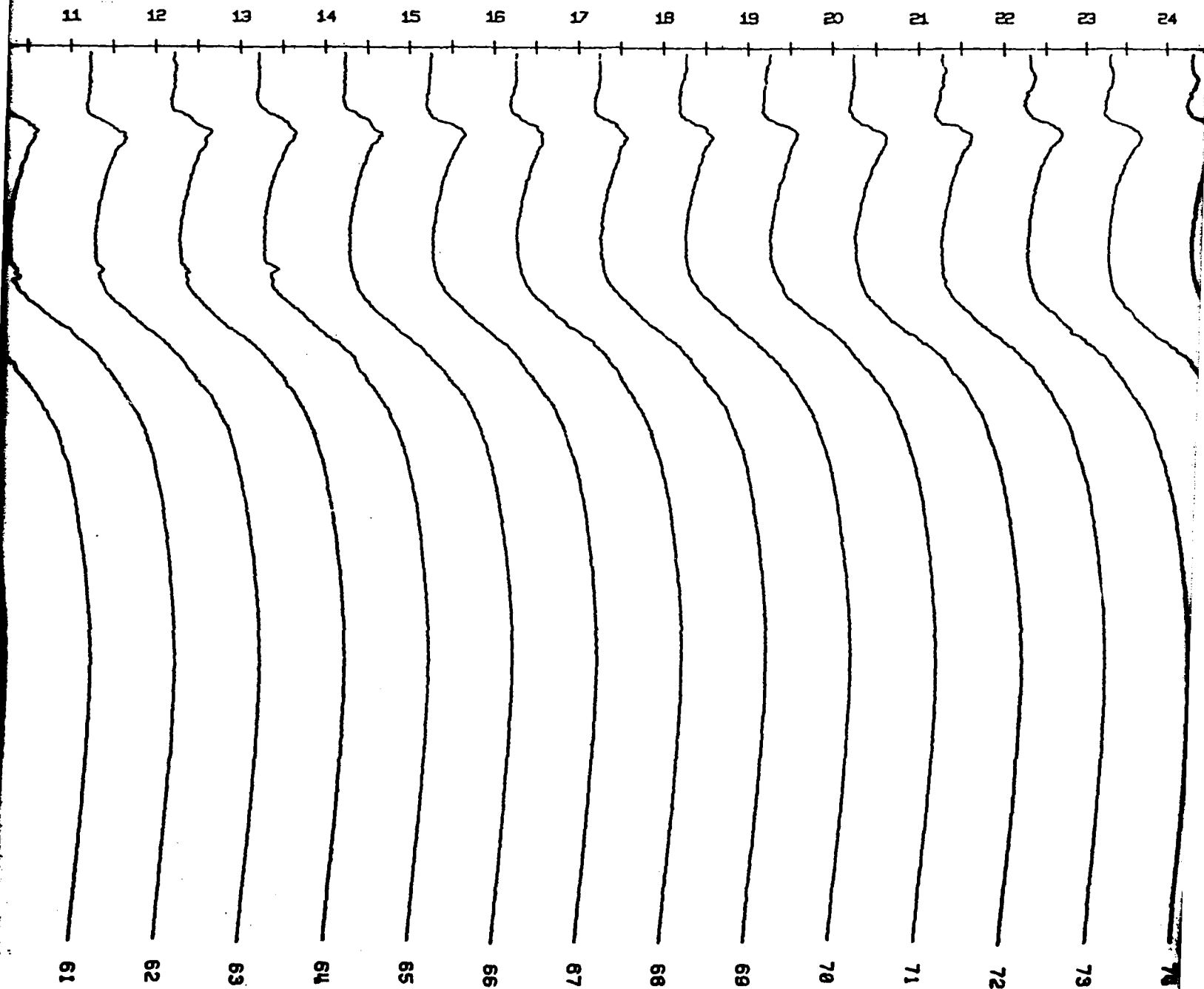


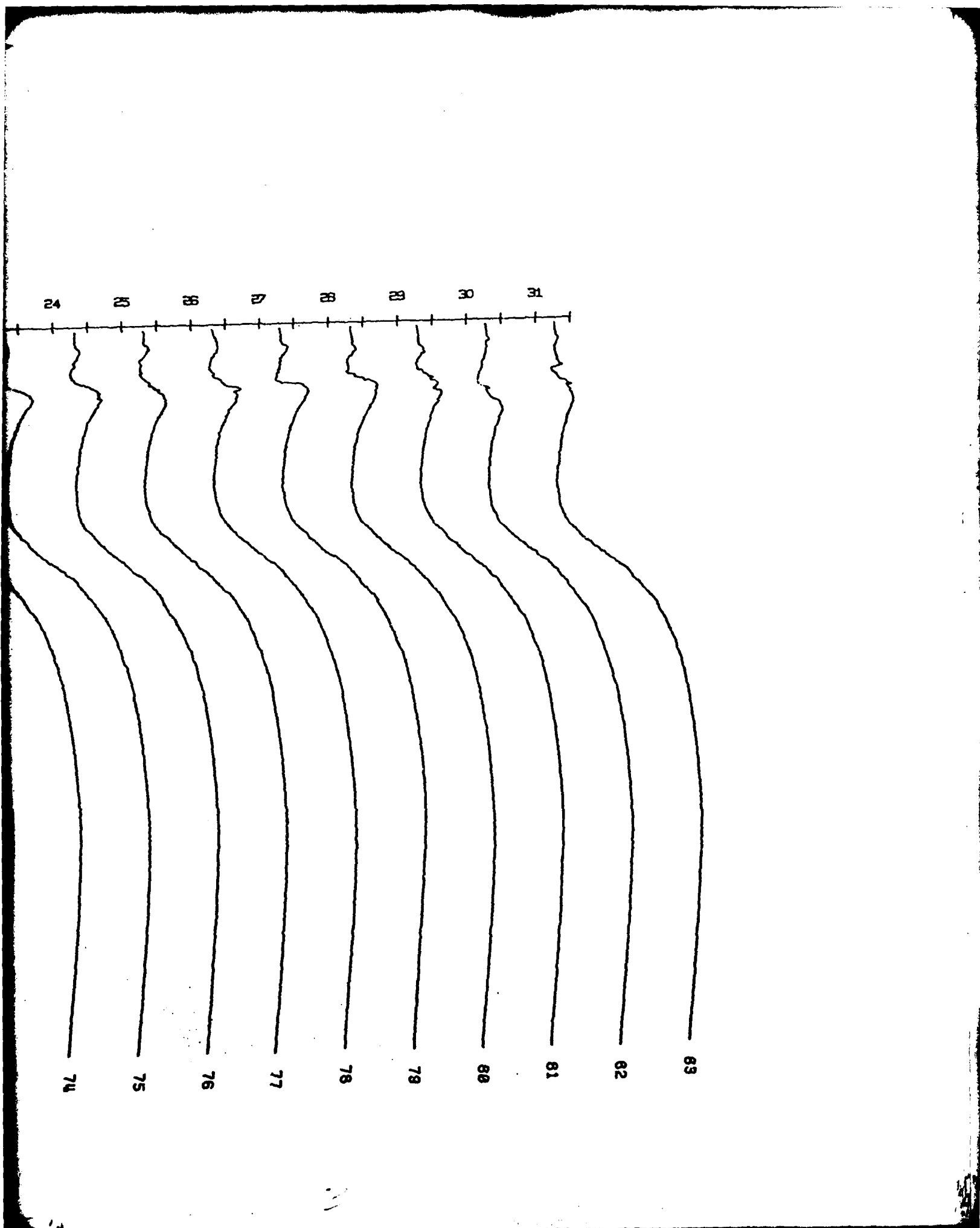


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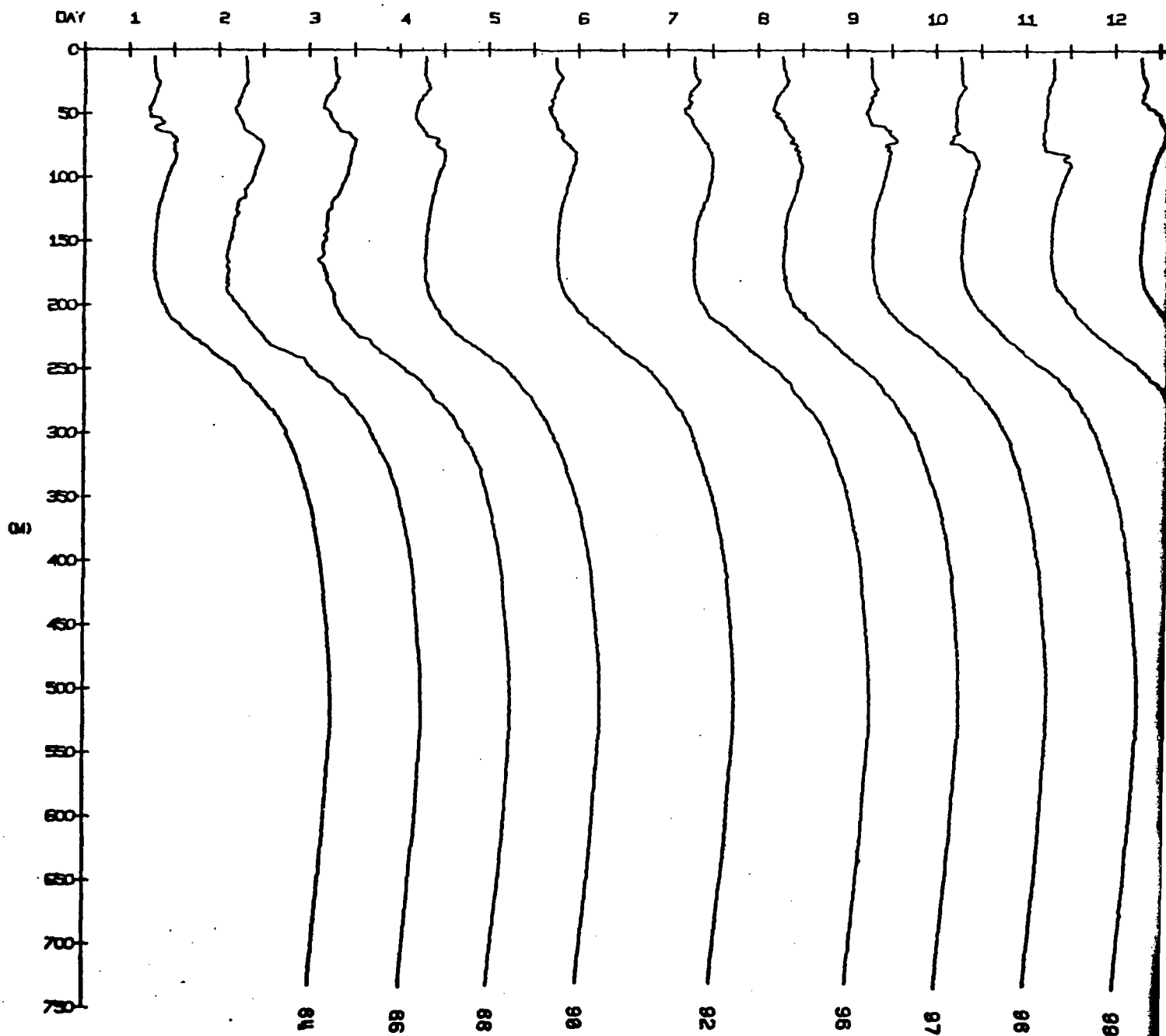


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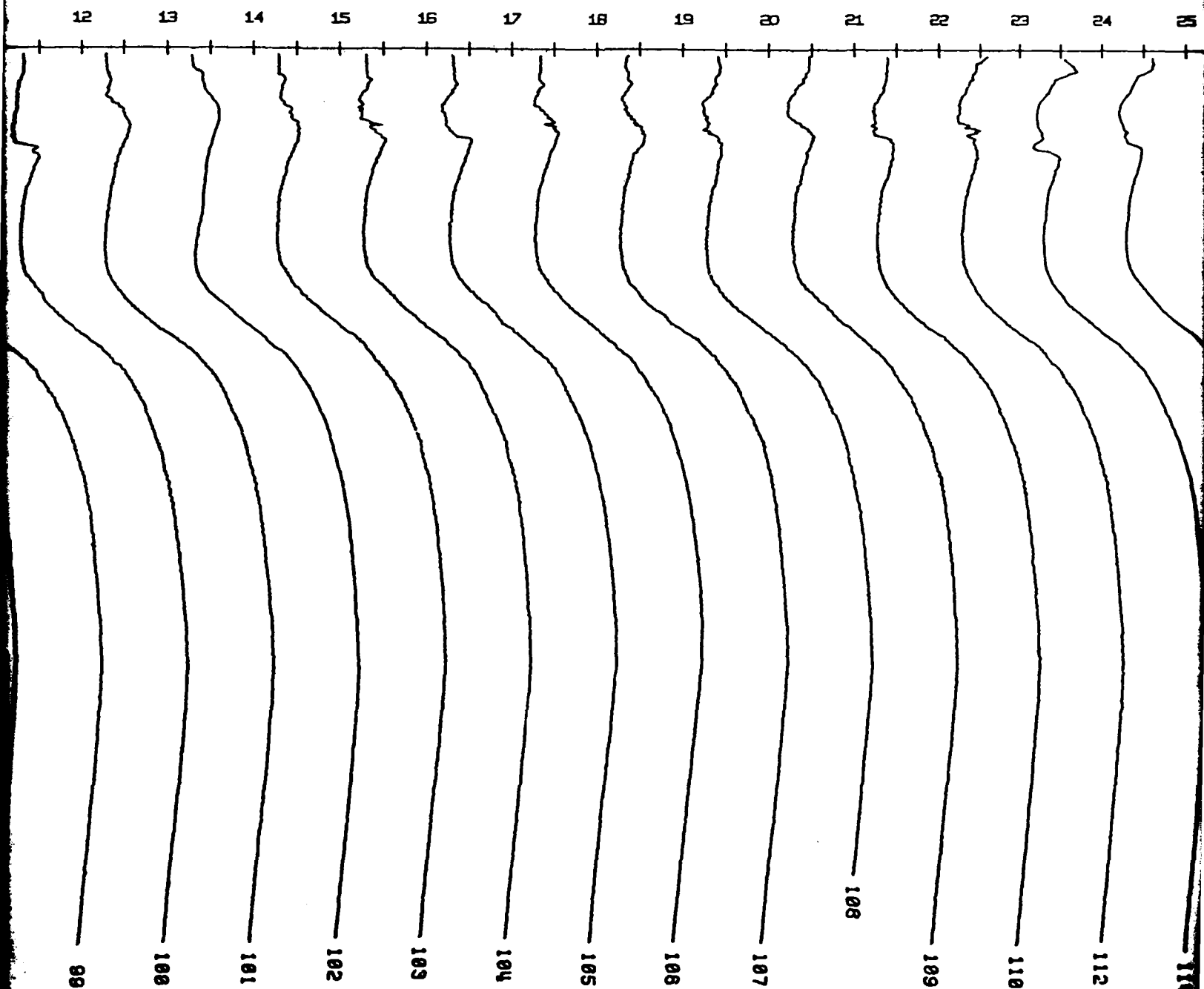




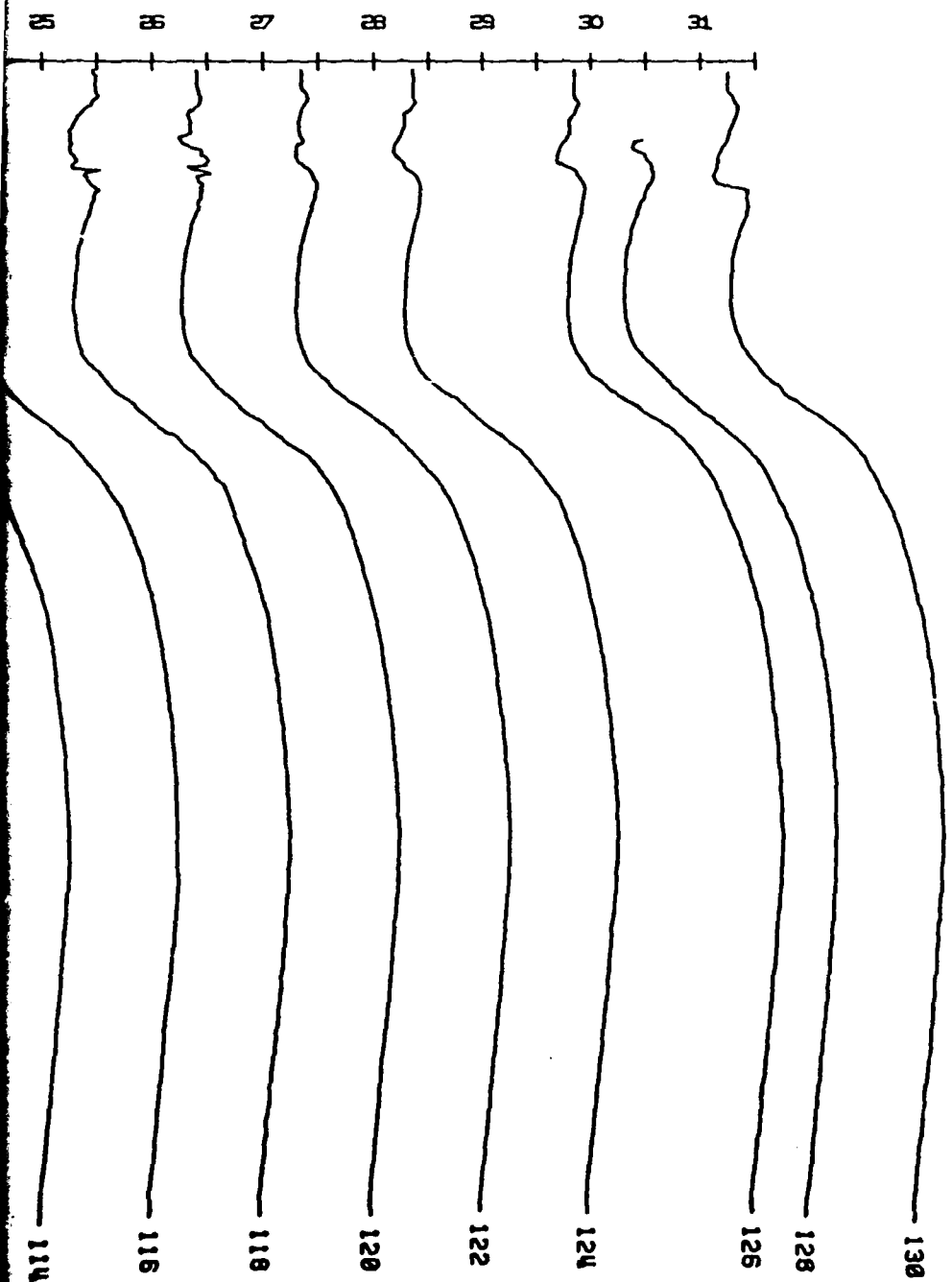
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TEMPERATURE PROFILES AT CAMP BLUE FOX  
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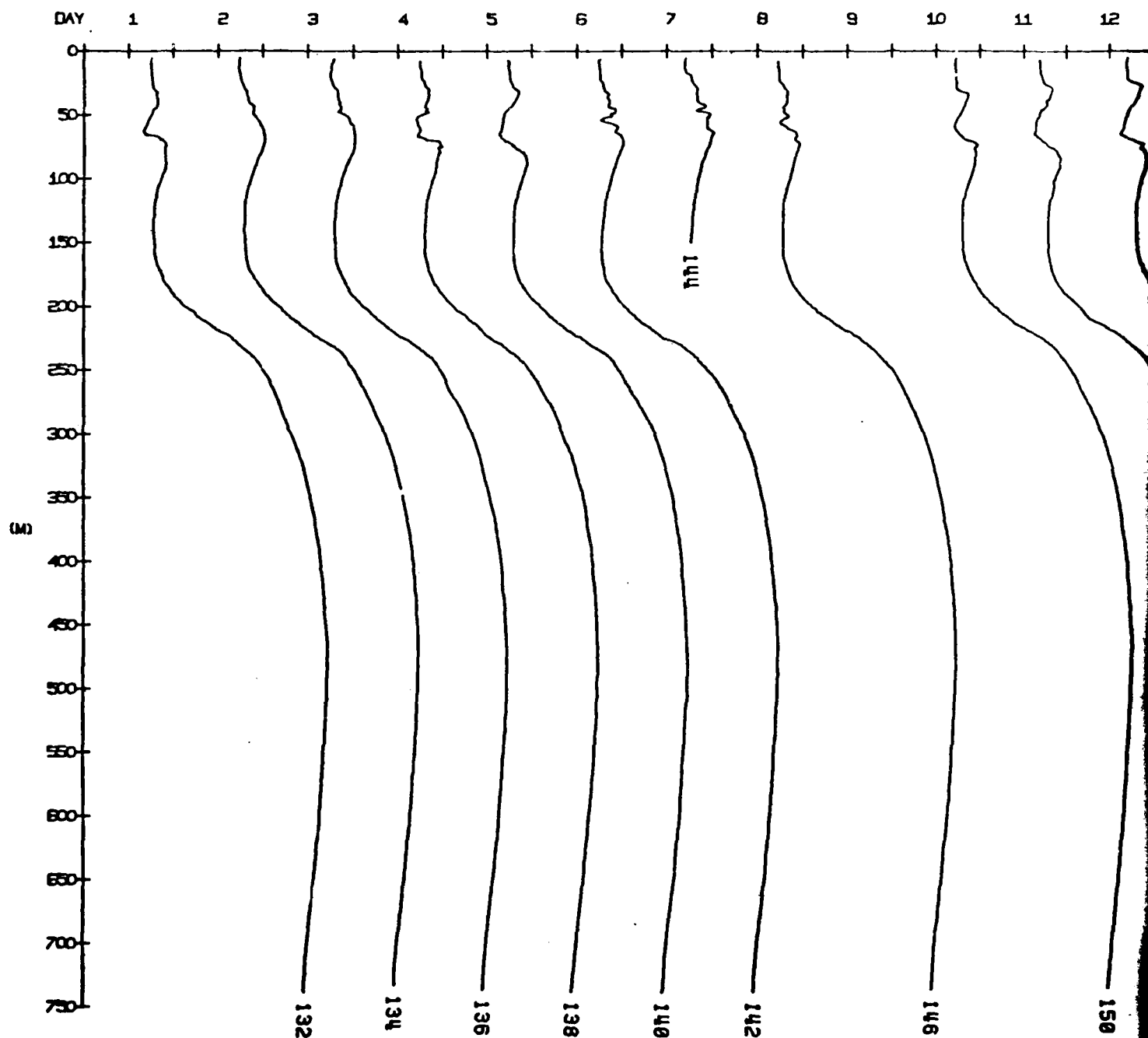






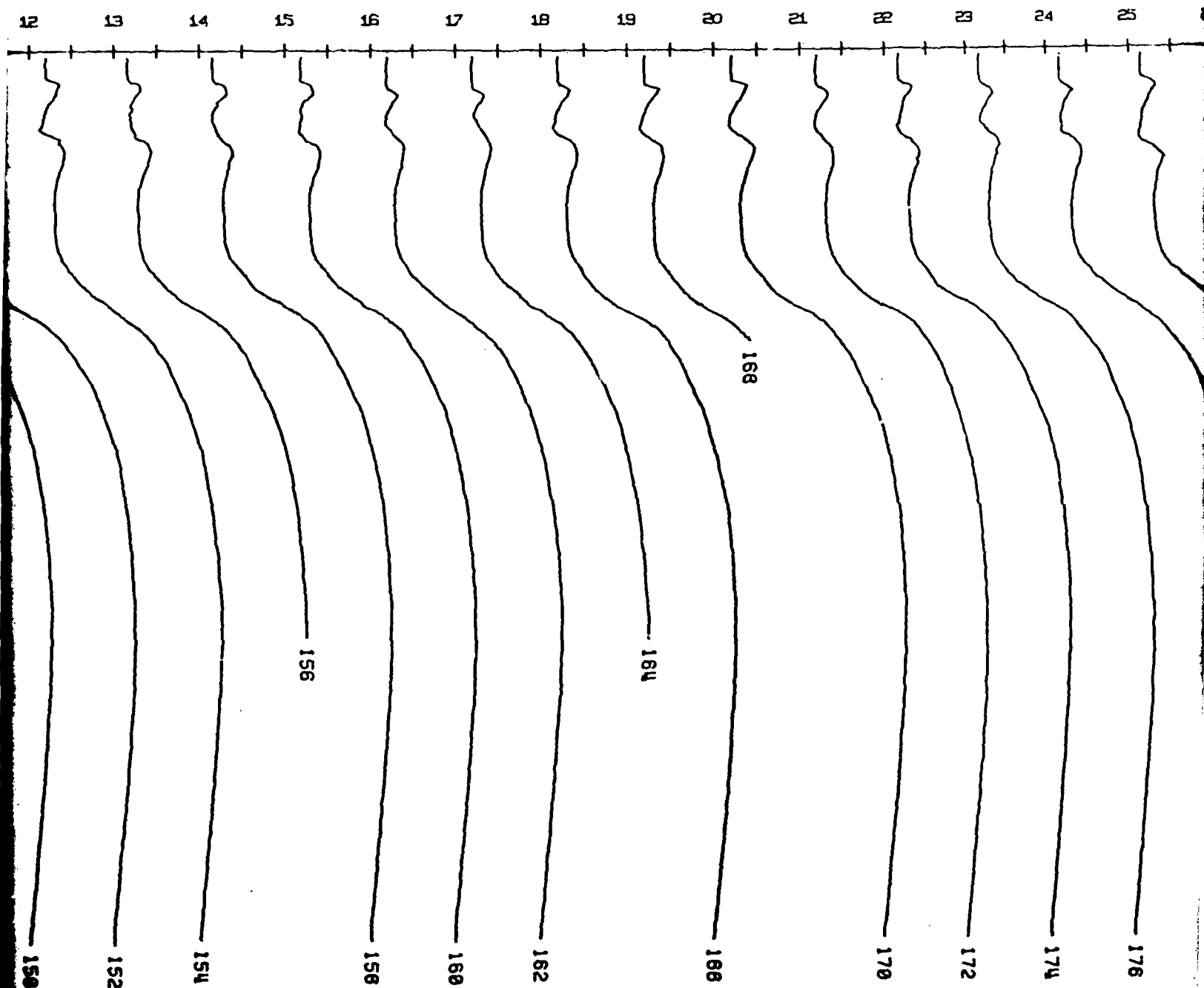
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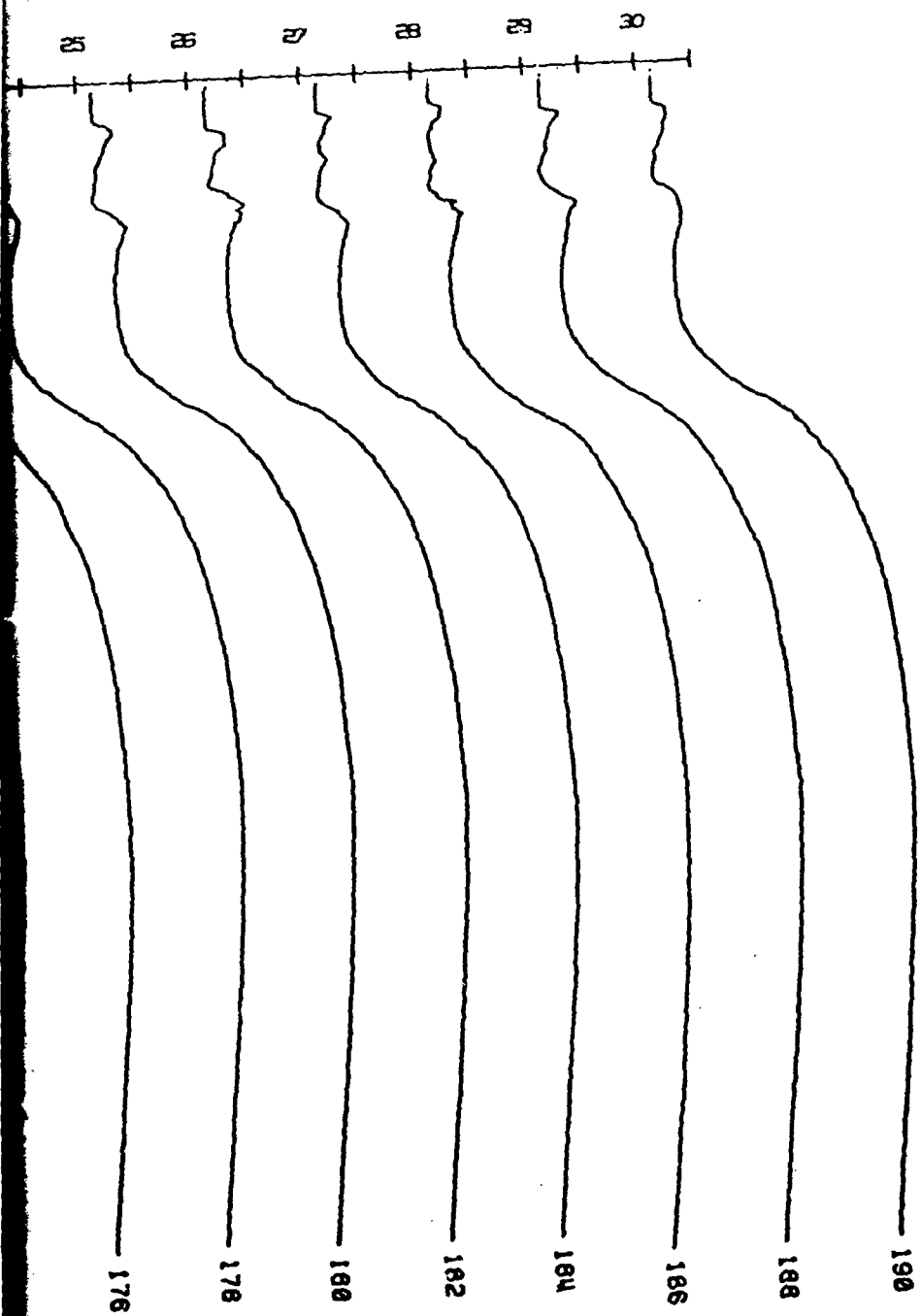
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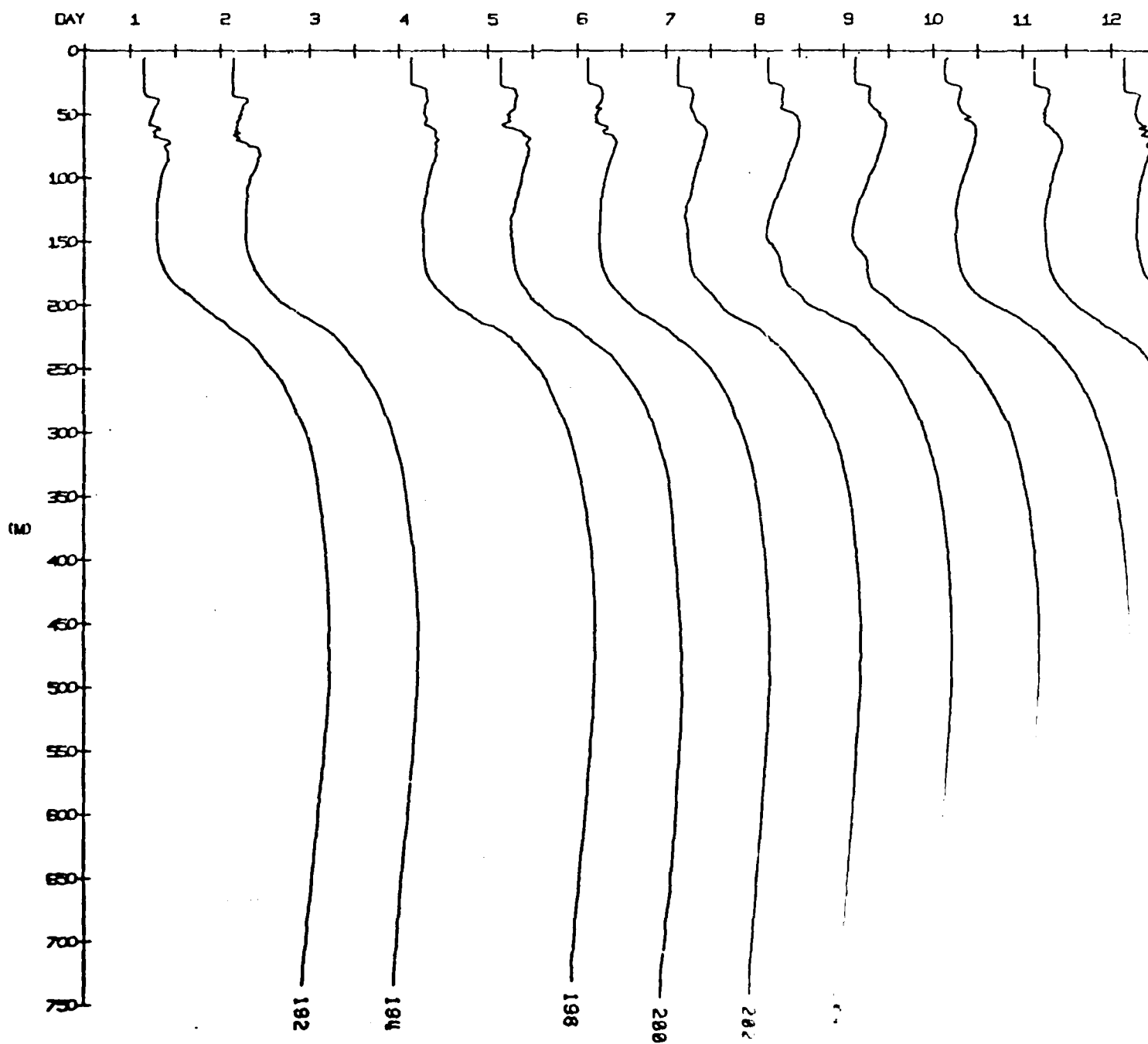
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SEP 1, 1975 TO SEP 30, 1975





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LAMONT-DOHERTY GEOLOGICAL OBSERVATORY PALISADES NY

F/G 8/10

ARCTIC ICE DYNAMICS JOINT EXPERIMENT 1975-1976. PHYSICAL OCEANO--ETC(U)

FEB 80 E BAUER, K HUNKINS, T O MANLEY

N00014-76-C-0004

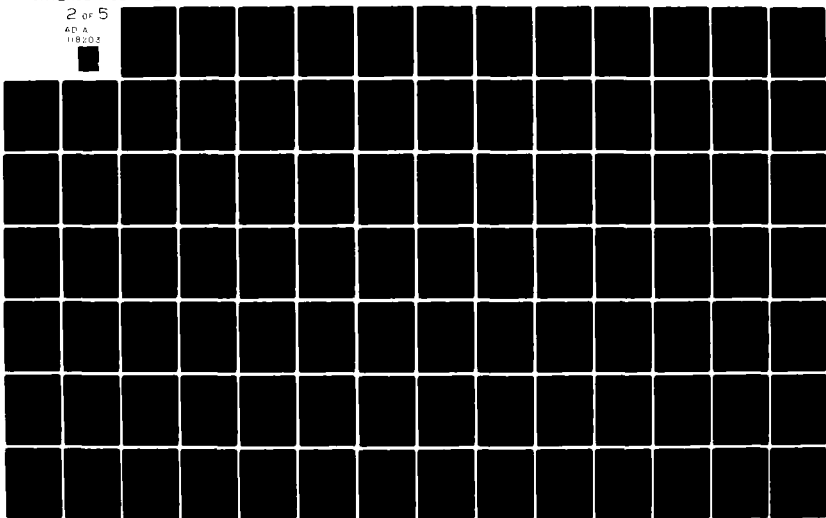
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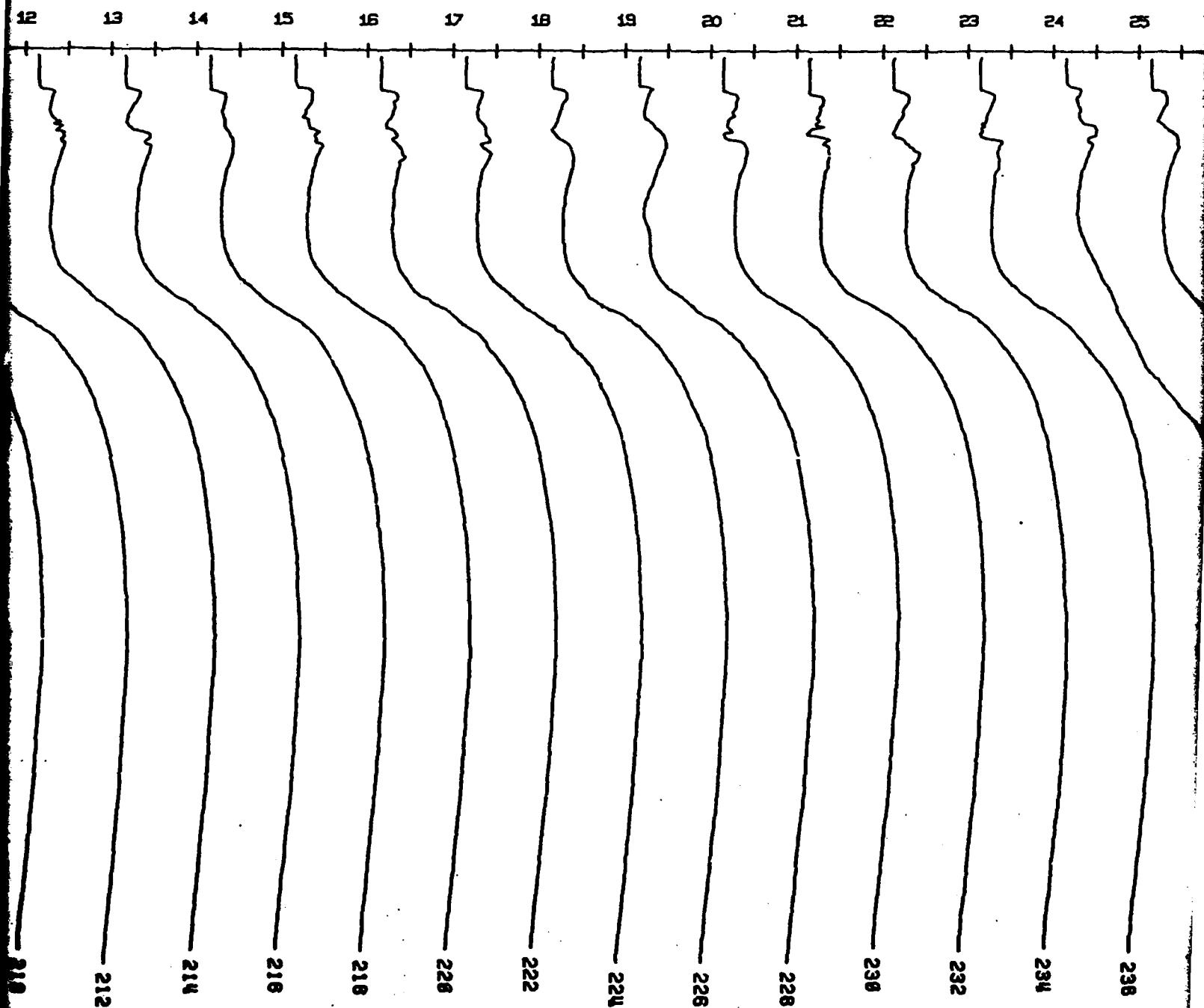
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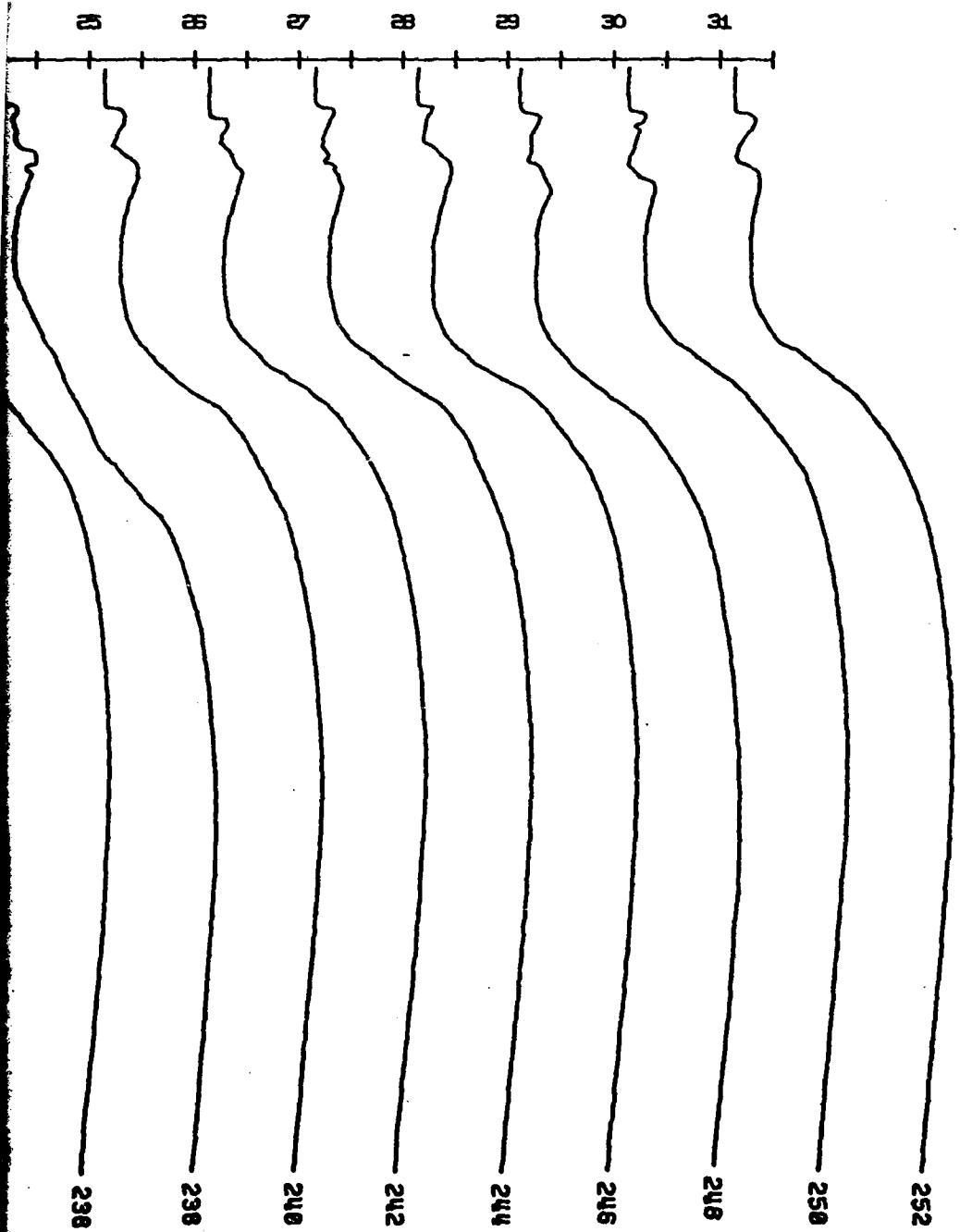
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TEMPERATURE PROFILES AT CAMP BLUE FOX  
OCT 1, 1975 TO OCT 31, 1975



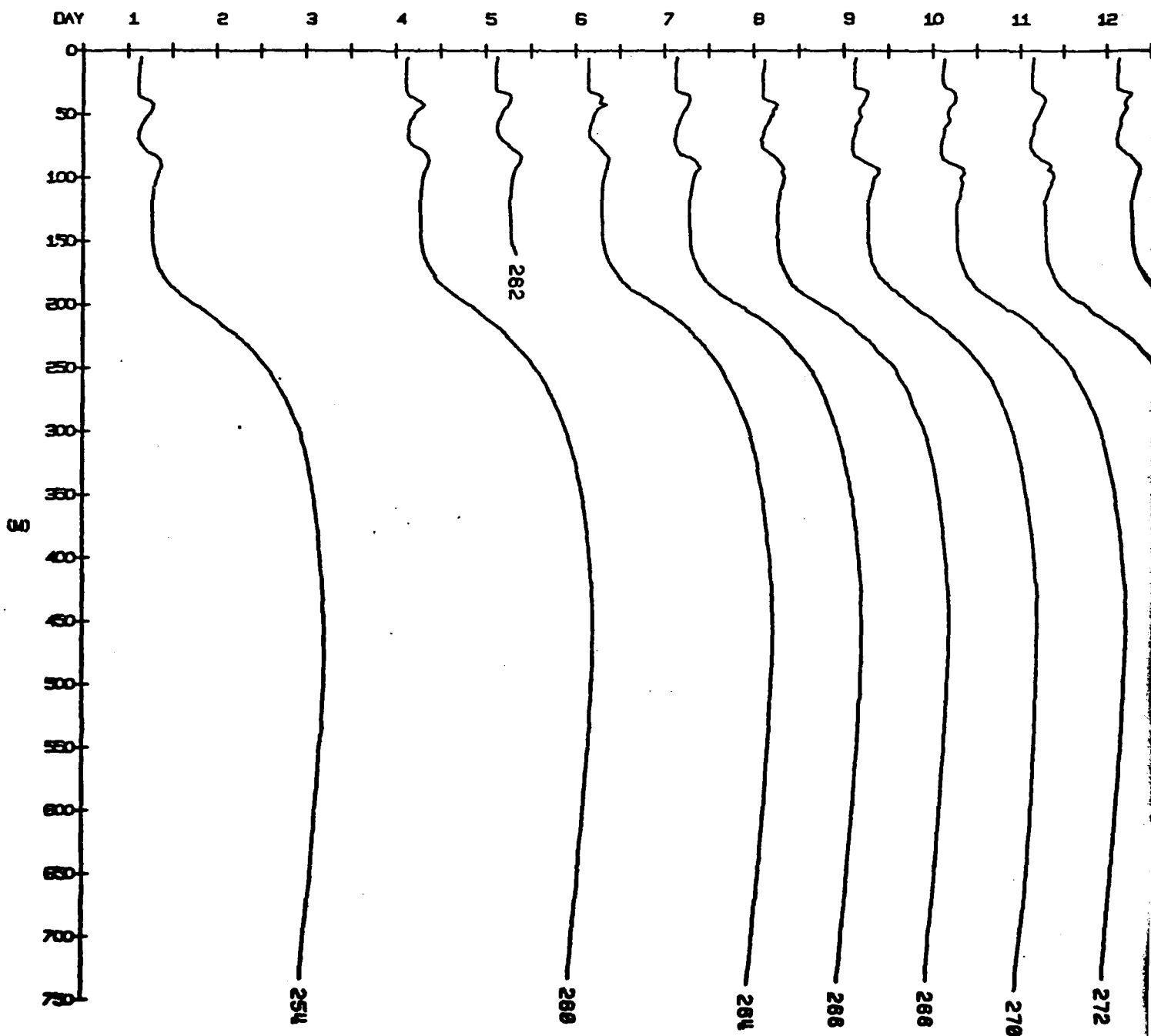


3



TEMP

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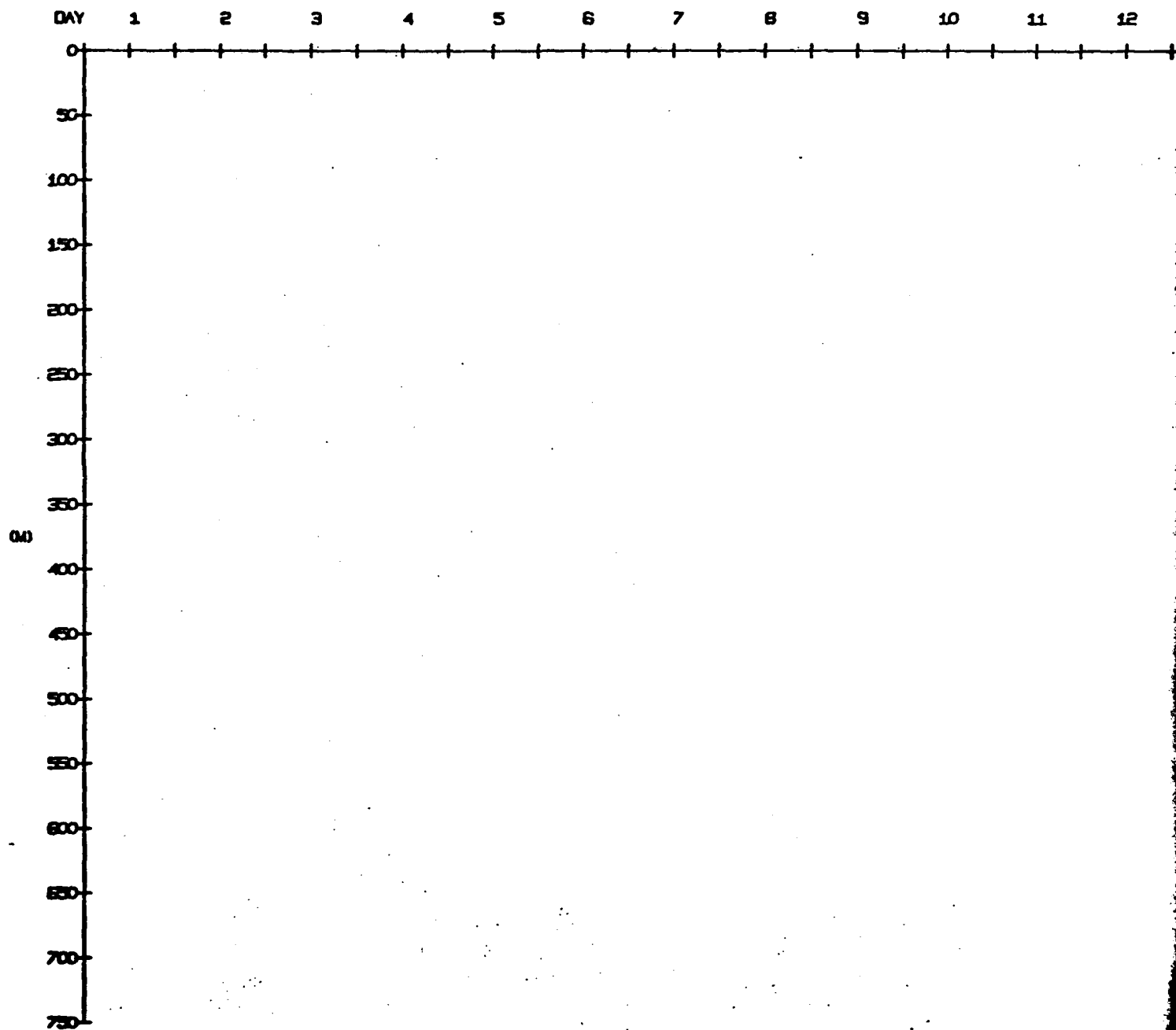


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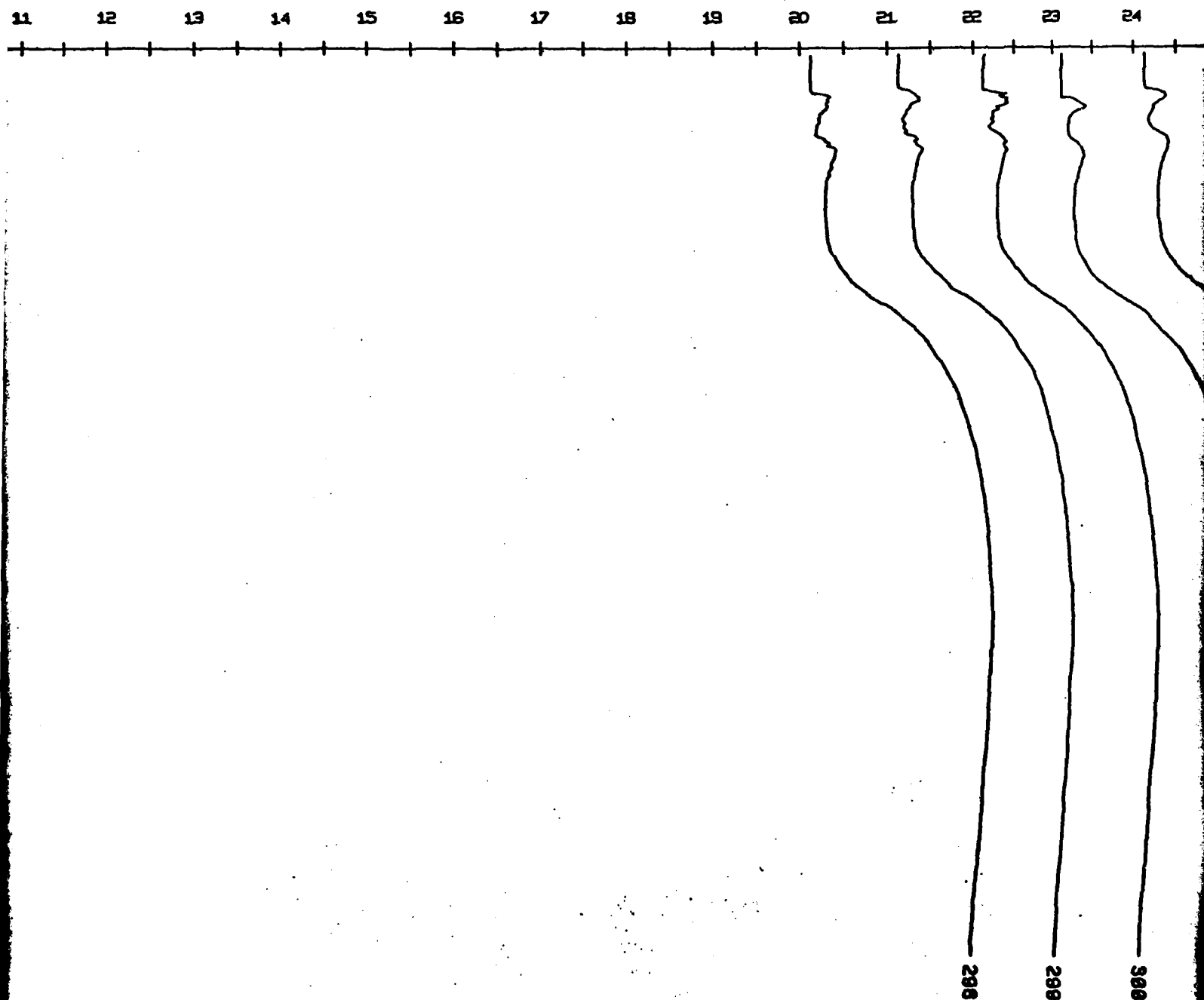


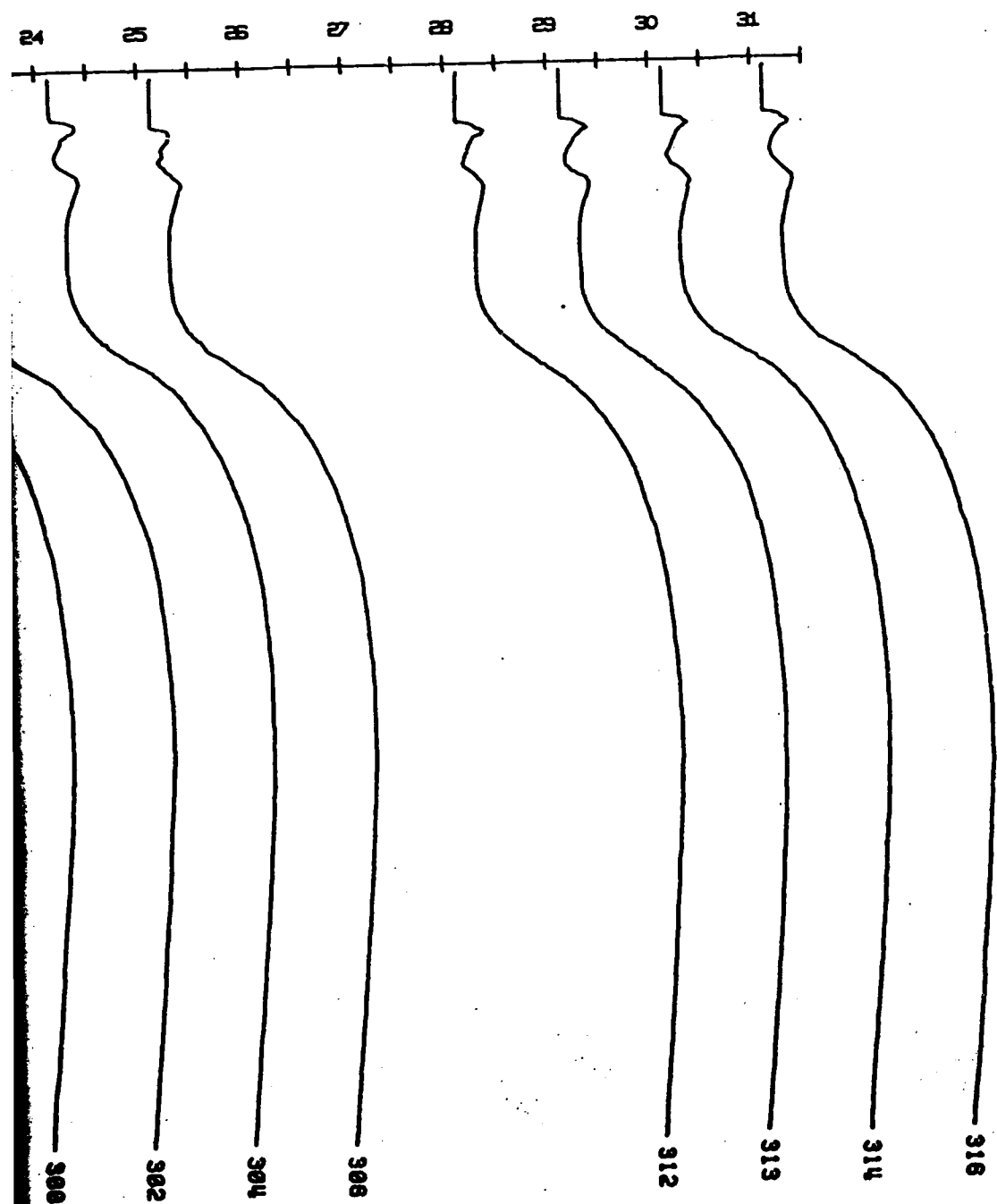
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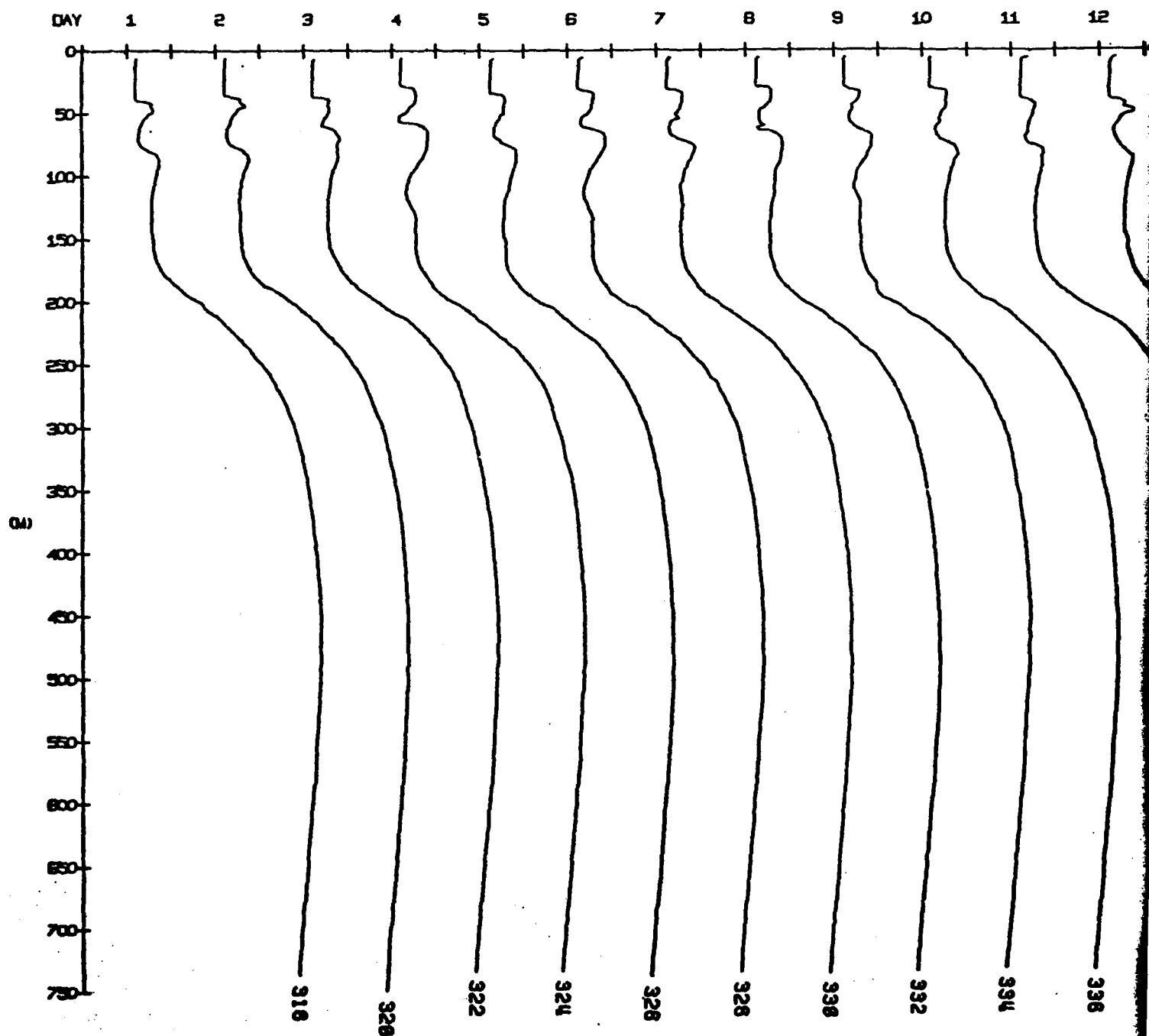


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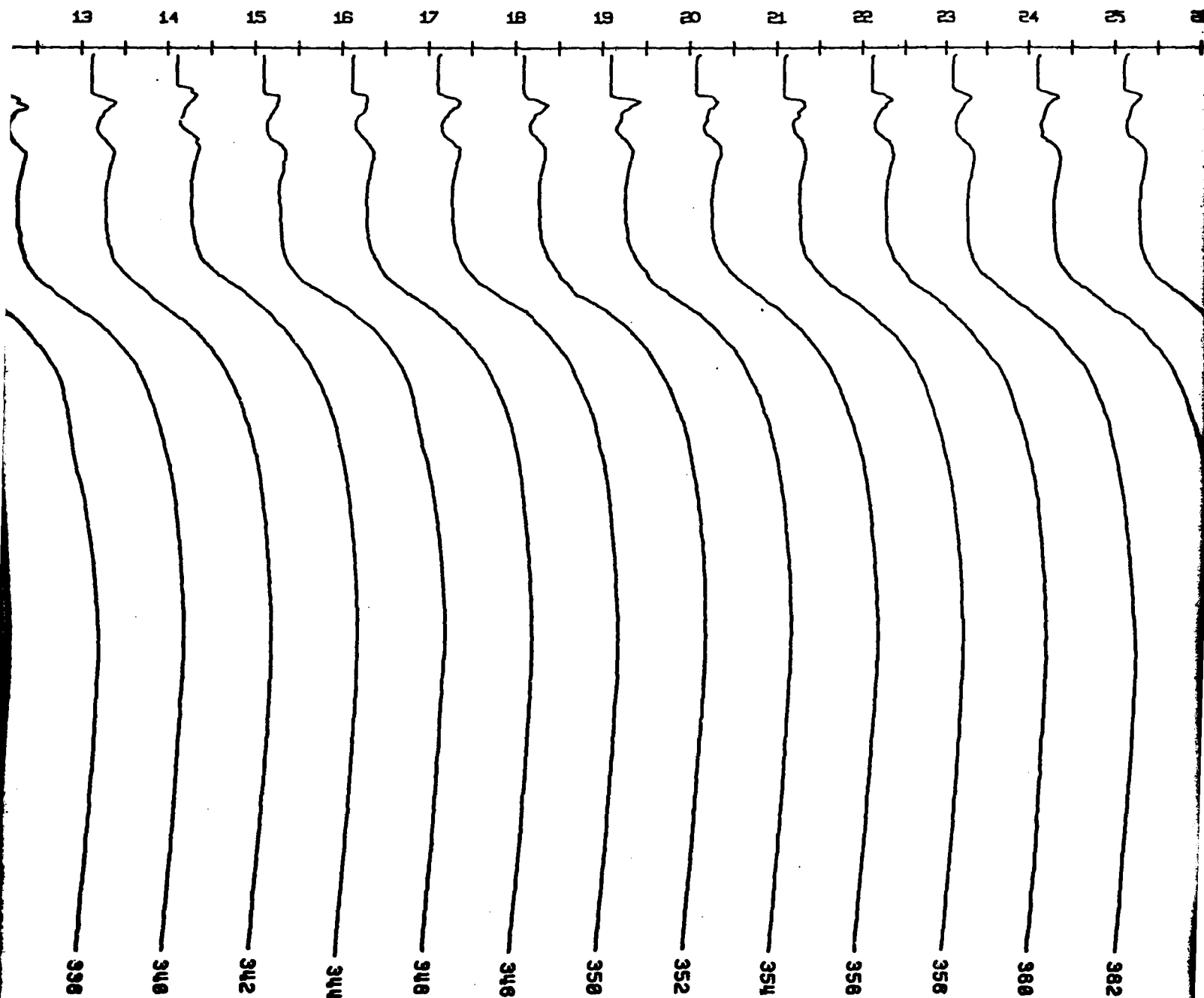




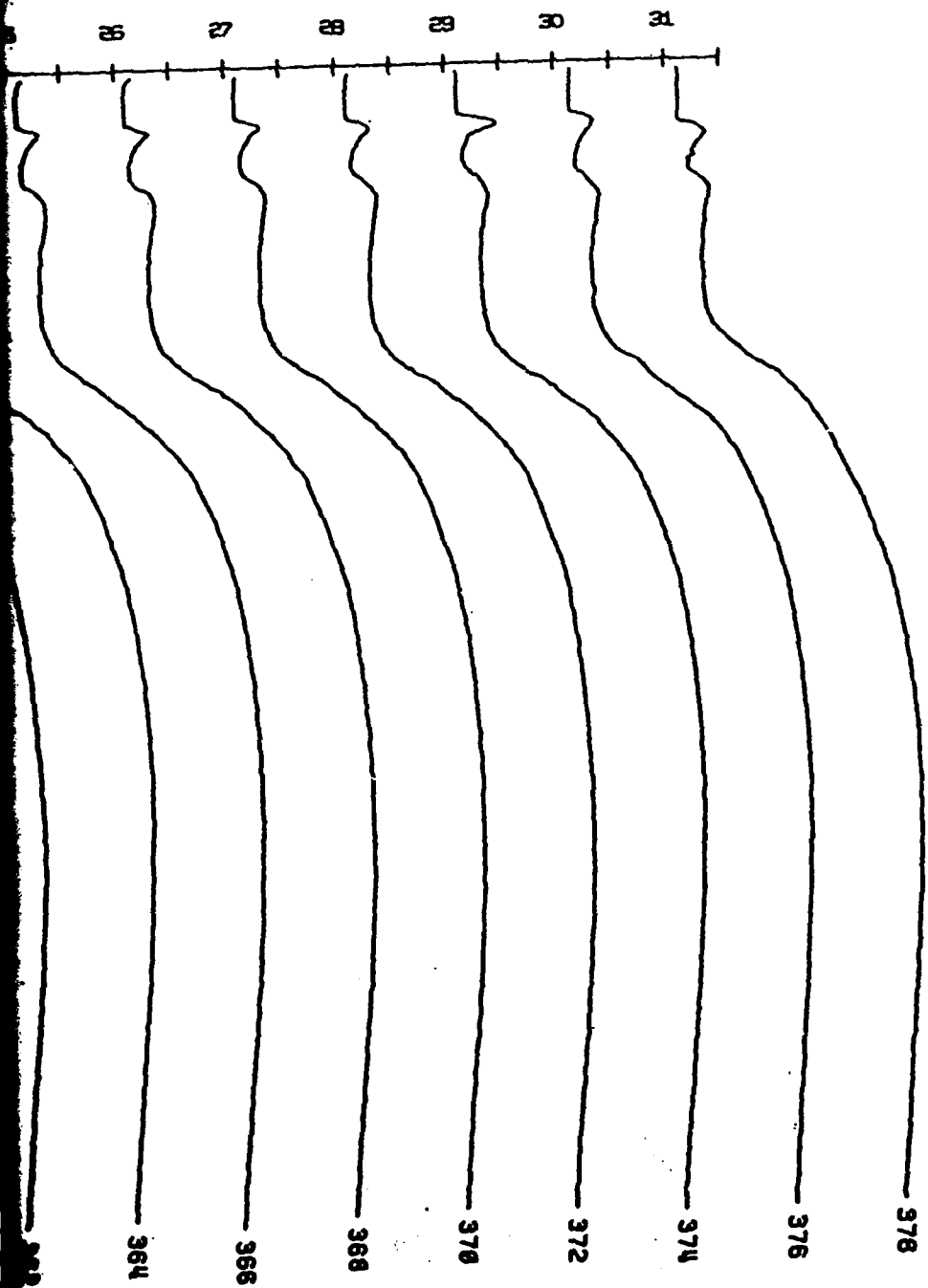
- NO MORE THAN ONE PROFILE PER HALF DAY (AM/PM GMT) IS PLOTTED
- EACH PROFILE PLOTTED WITH RESPECT TO LEFT DIVISION MARK (-1.8 DEG. C.)
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TEMPERATURE PROFILES AT CAMP BLUE FOX  
JAN 1, 1976 TO JAN 31, 1976

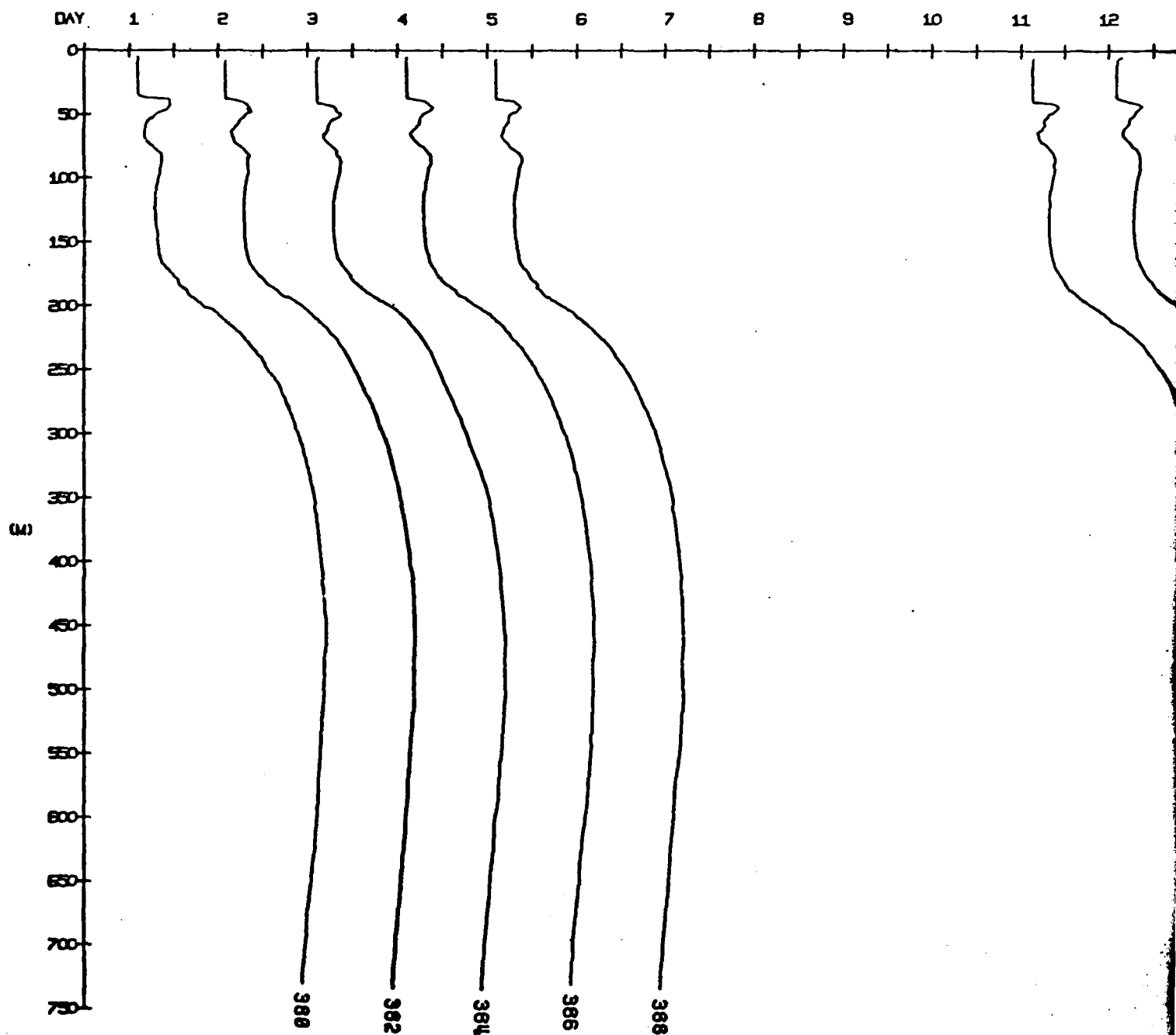




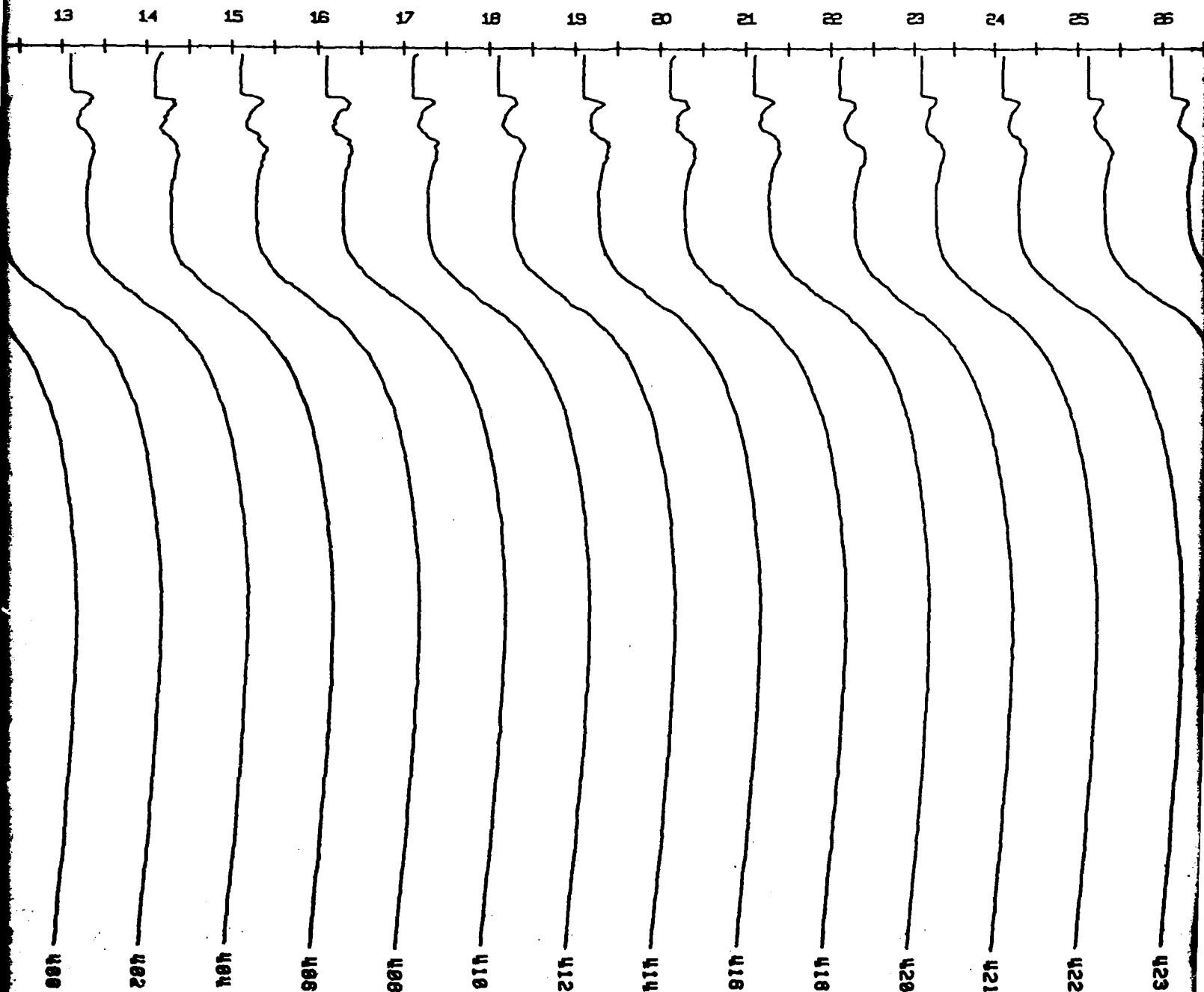


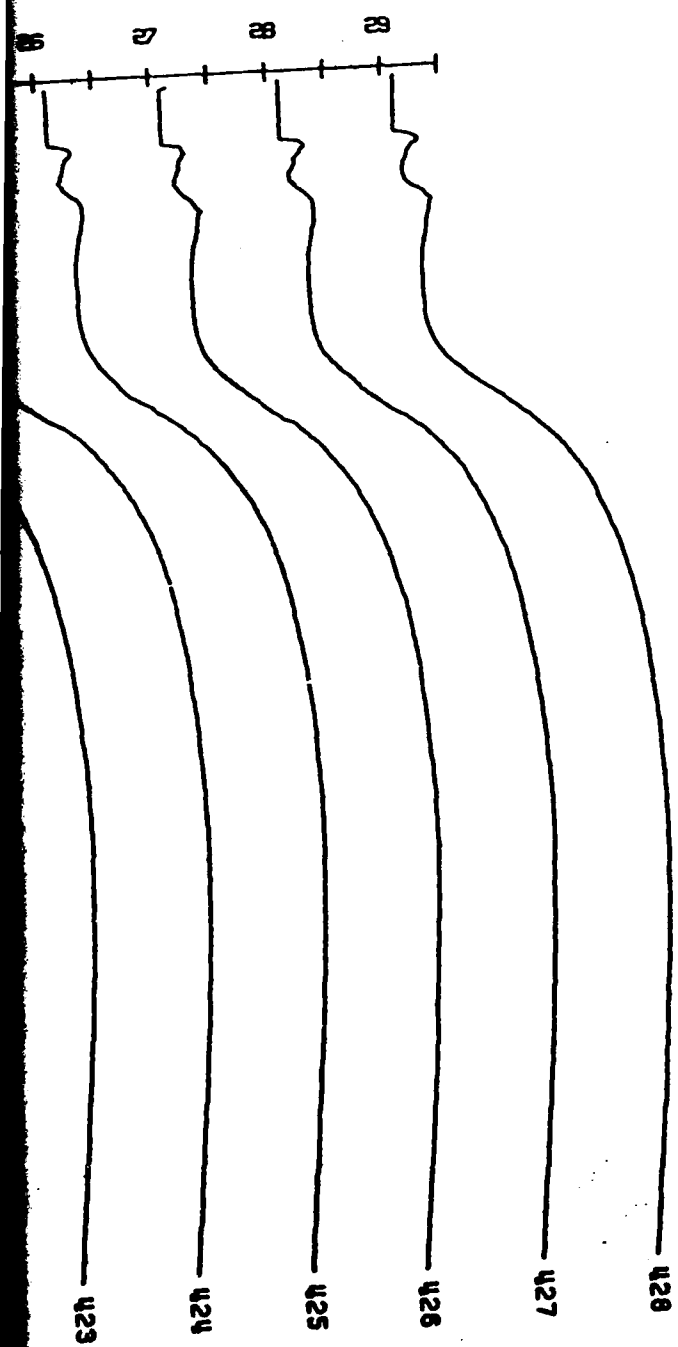
# TEMPERATURE FEB

- NO MORE THAN ONE PROFILE PER HALF DAY (AM/PM GMT) IS PLOTTED
- EACH PROFILE PLOTTED WITH RESPECT TO LEFT DIVISION MARK (-1.8 DEG. C.)
- TEMPERATURE SCALE SHIFTS RIGHT 1 DIVISION ( 0.5 DEG. C.) PER HALF DAY

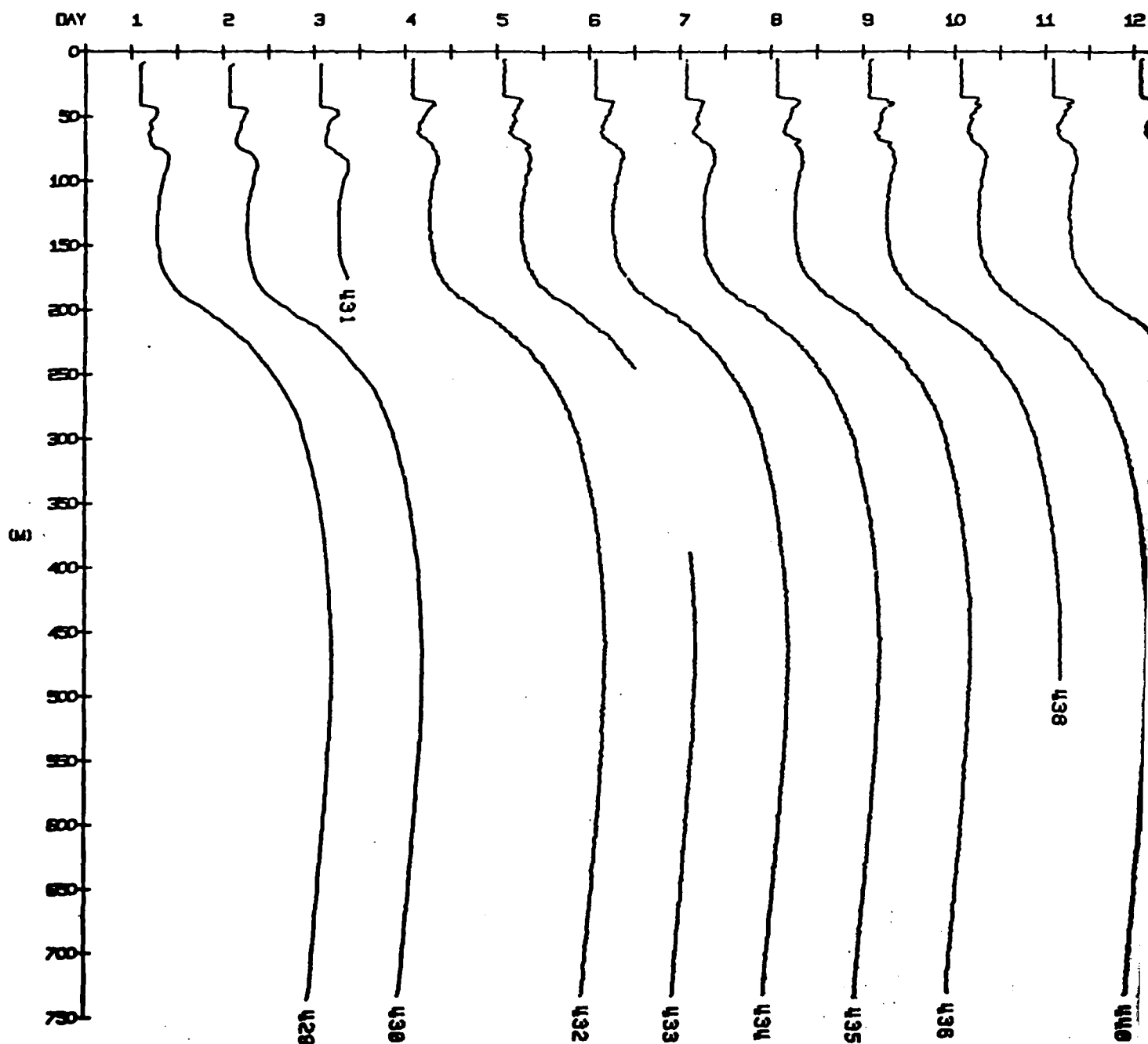


TEMPERATURE PROFILES AT CAMP BLUE FOX  
FEB 1, 1976 TO FEB 29, 1976

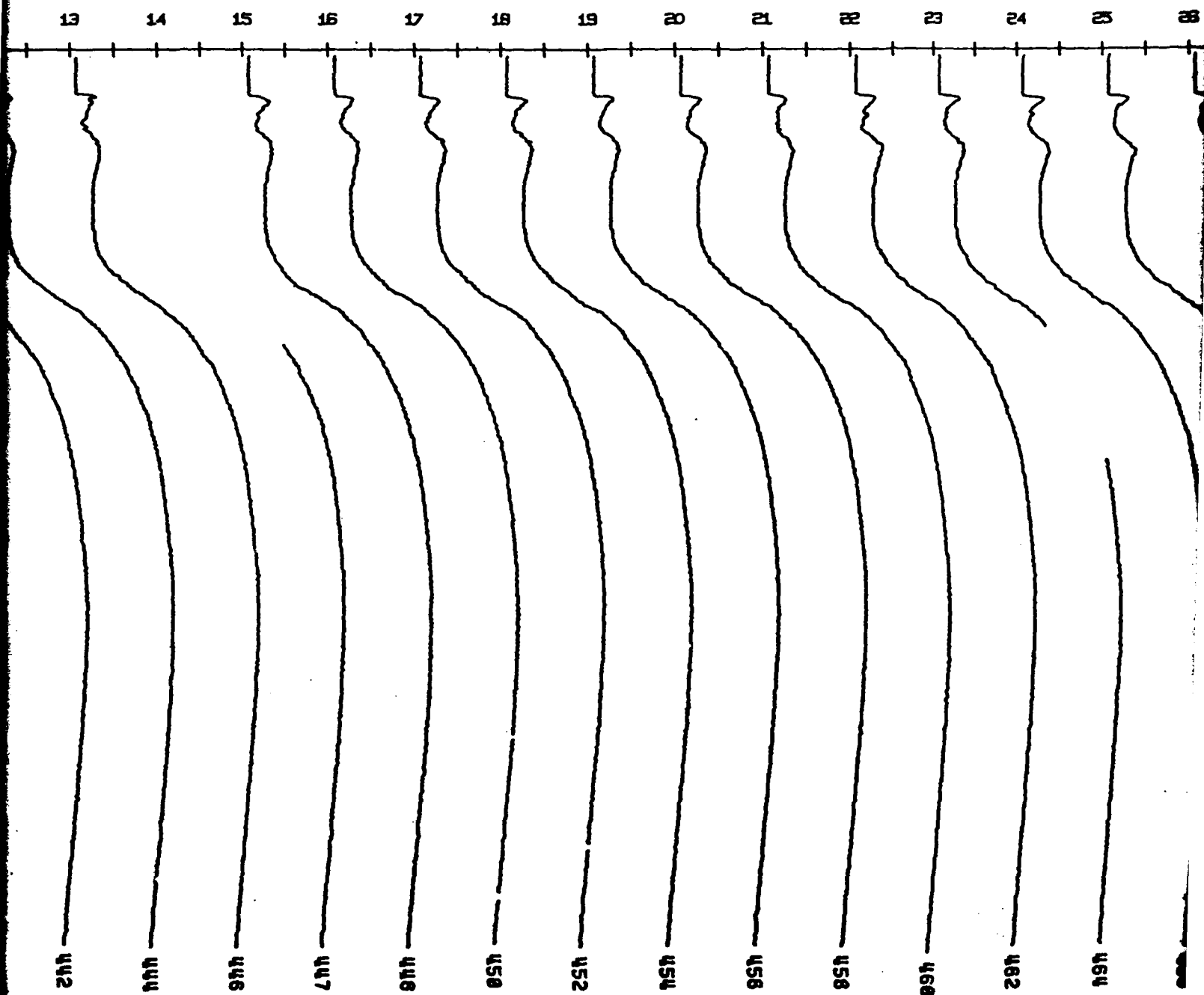


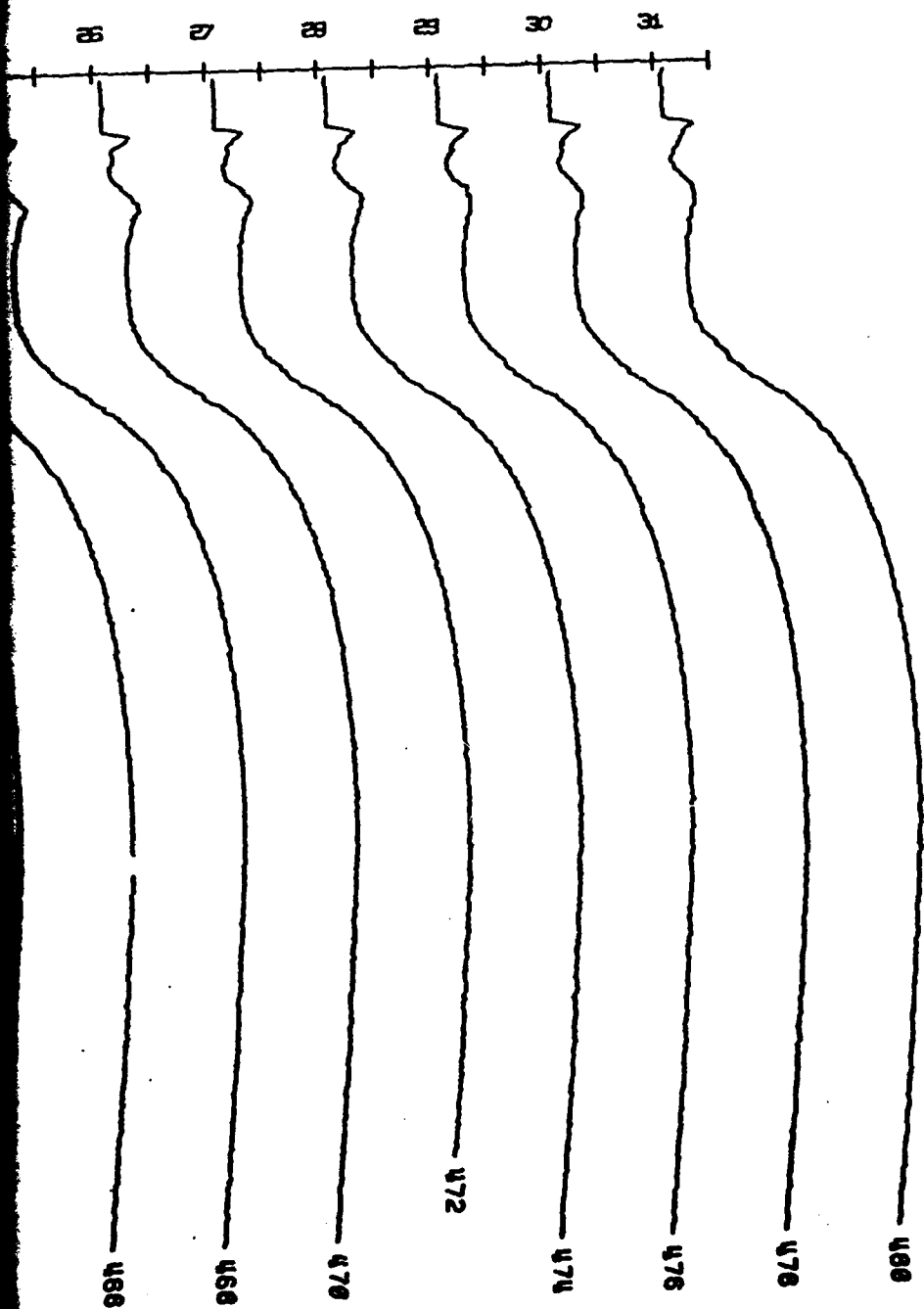


- NO MORE THAN ONE PROFILE PER HALF DAY (AM/PM GMT) IS PLOTTED
- EACH PROFILE PLOTTED WITH RESPECT TO LEFT DIVISION MARK (-1.8 DEG. C.)
- TEMPERATURE SCALE SHIFTS RIGHT 1 DIVISION (0.5 DEG. C.) PER HALF DAY

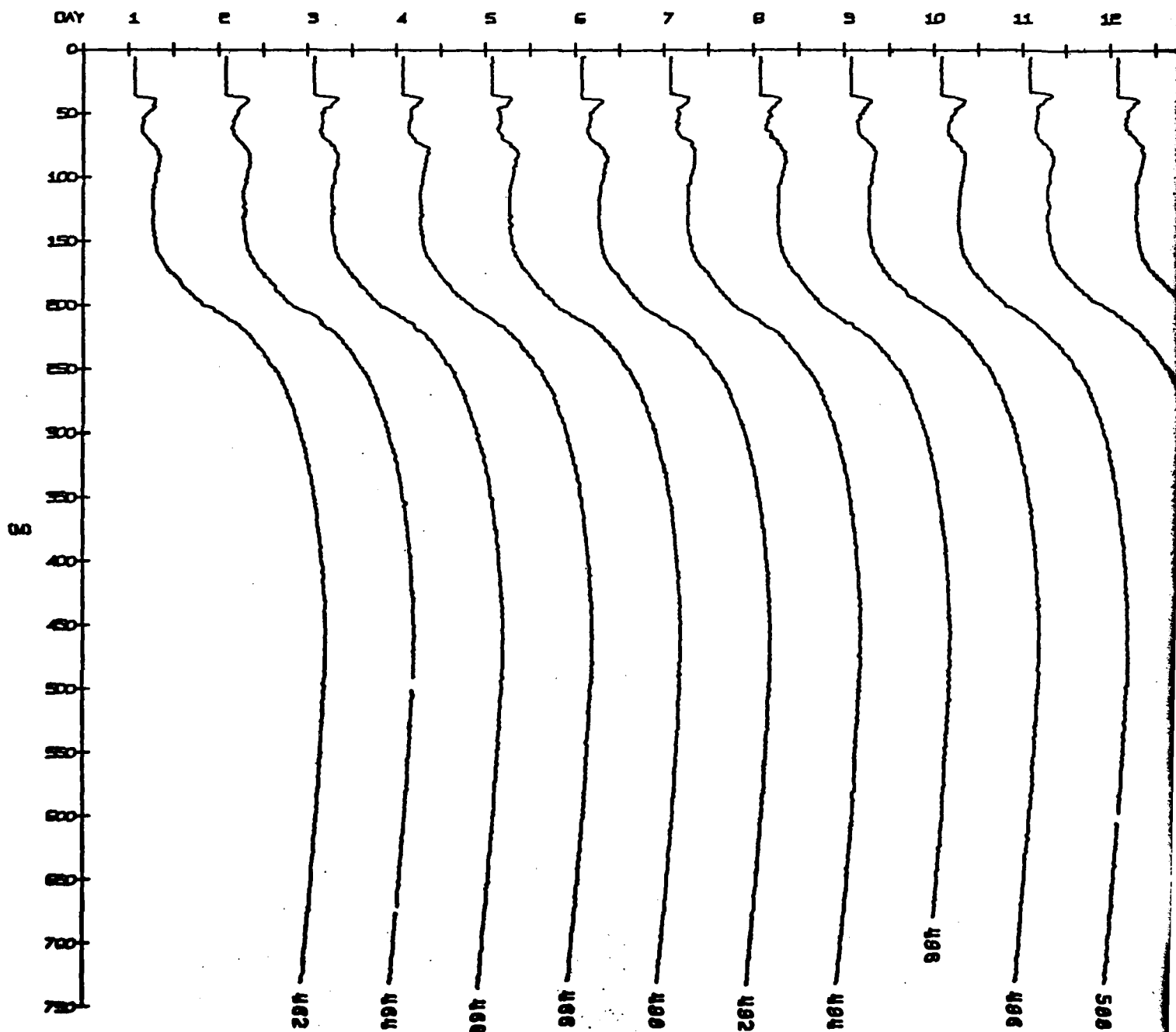


TEMPERATURE PROFILES AT CAMP BLUE FOX  
MAR 1, 1976 TO MAR 31, 1976





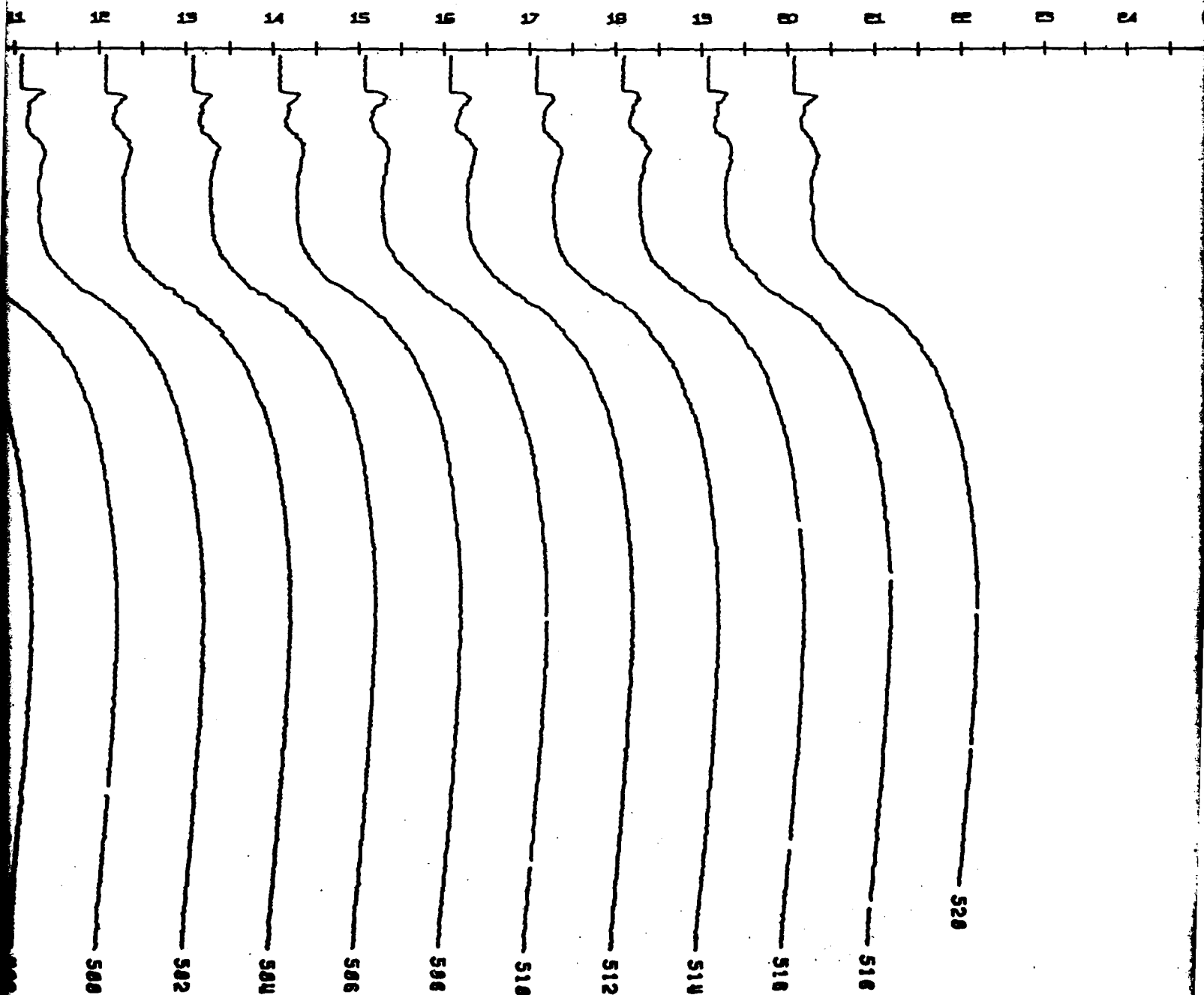
- NO MORE THAN ONE PROFILE PER HALF DAY (AM/PM GMT) IS PLOTTED
- EACH PROFILE PLOTTED WITH RESPECT TO LEFT DIVISION MARK (-1.8 DEG.C.)
- TEMPERATURE SCALE SHIFTS RIGHT 1 DIVISION ( 0.5 DEG. C.) PER HALF DAY





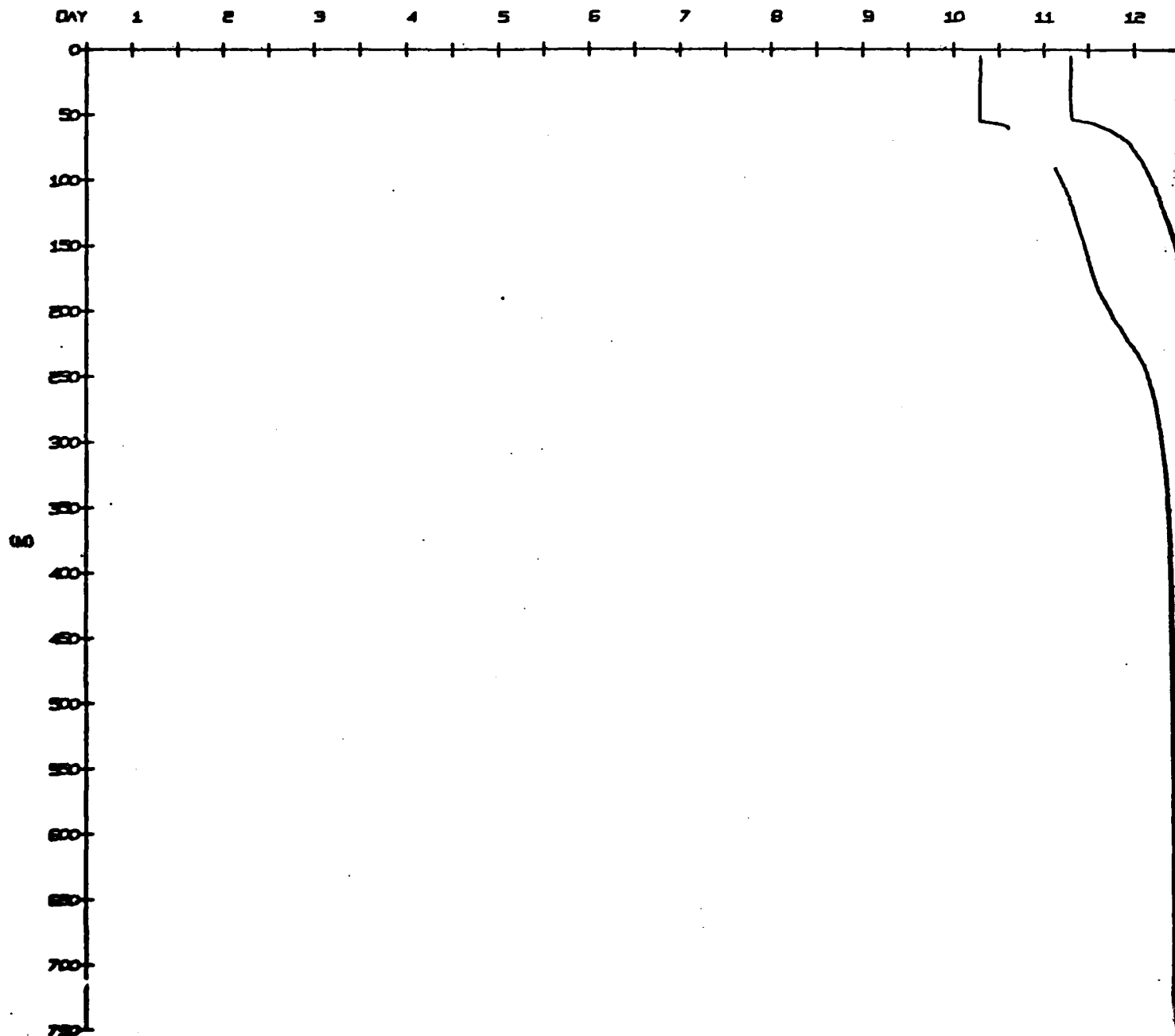
# TEMPERATURE PROFILES AT CAMP BLUE FOX

APR 1, 1976 TO APR 30, 1976



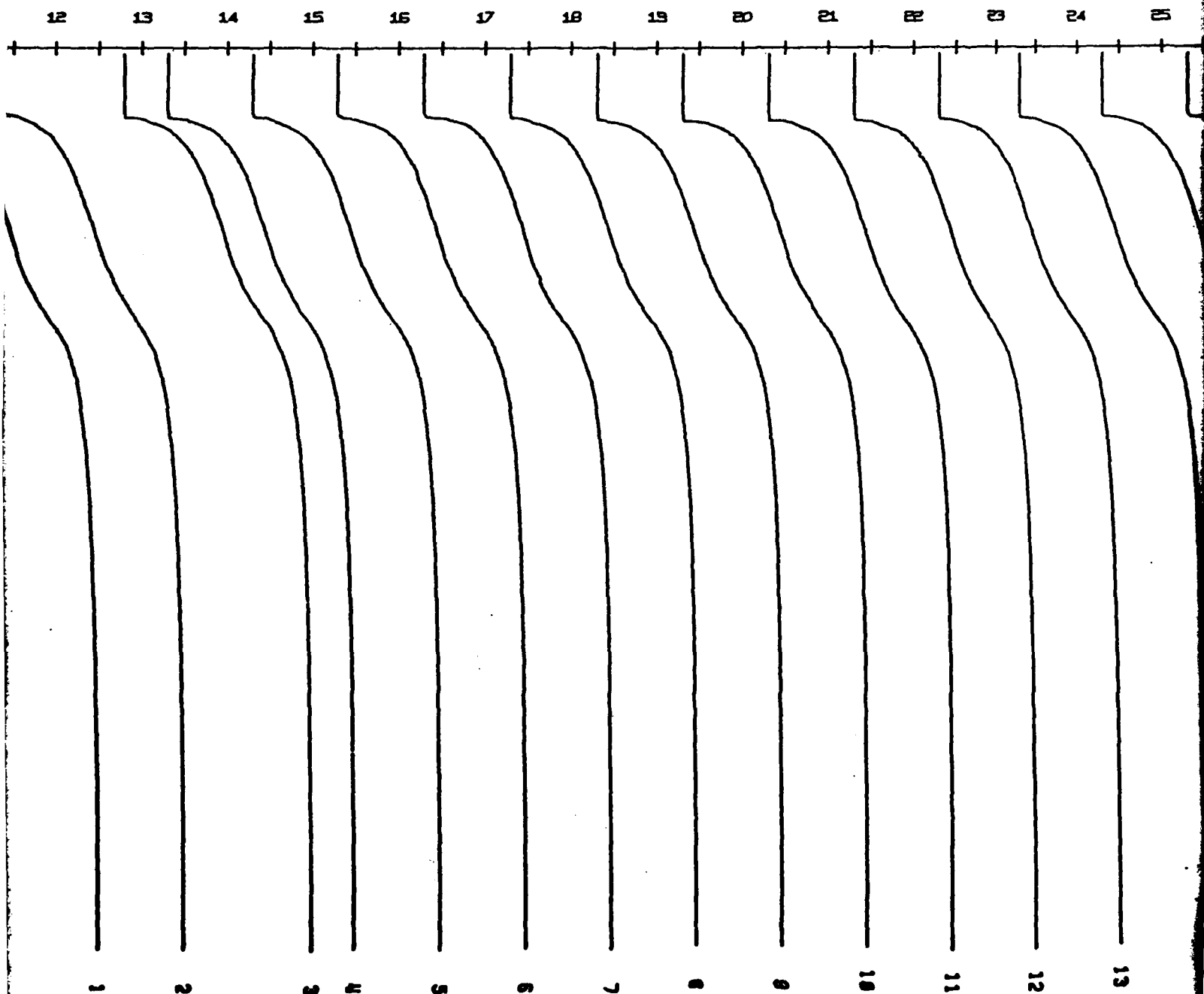
2 5 6 7 8 9 10

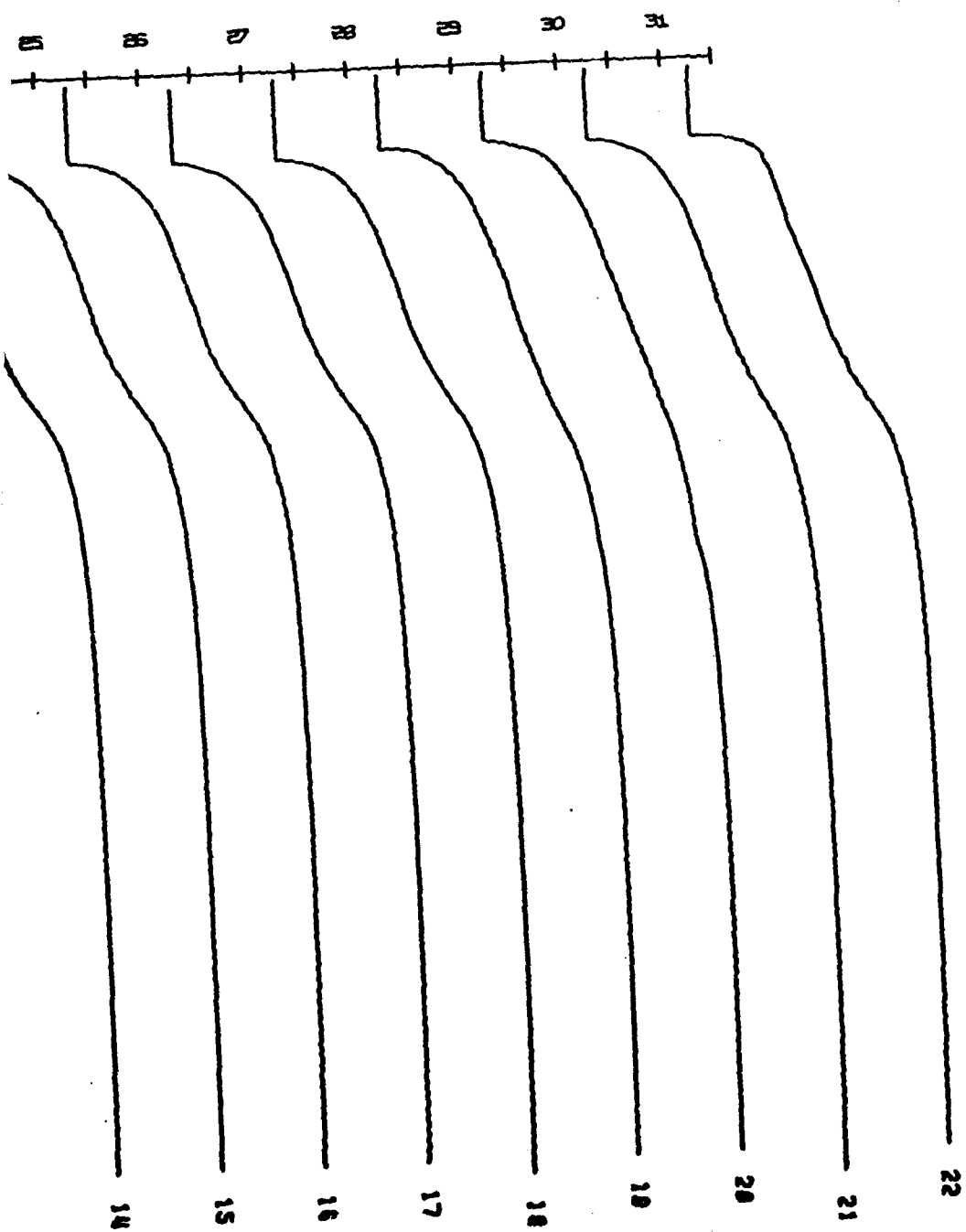
- NO MORE THAN ONE PROFILE PER HALF DAY (AM/PM GMT) IS PLOTTED
- EACH PROFILE PLOTTED WITH RESPECT TO LEFT DIVISION MARK (30.0 PPT)
- SALINITY SCALE SHIFTS RIGHT 1 DIVISION ( 1.0 PPT) PER HALF DAY



# SALINITY PROFILES AT CAMP BLUE FOX

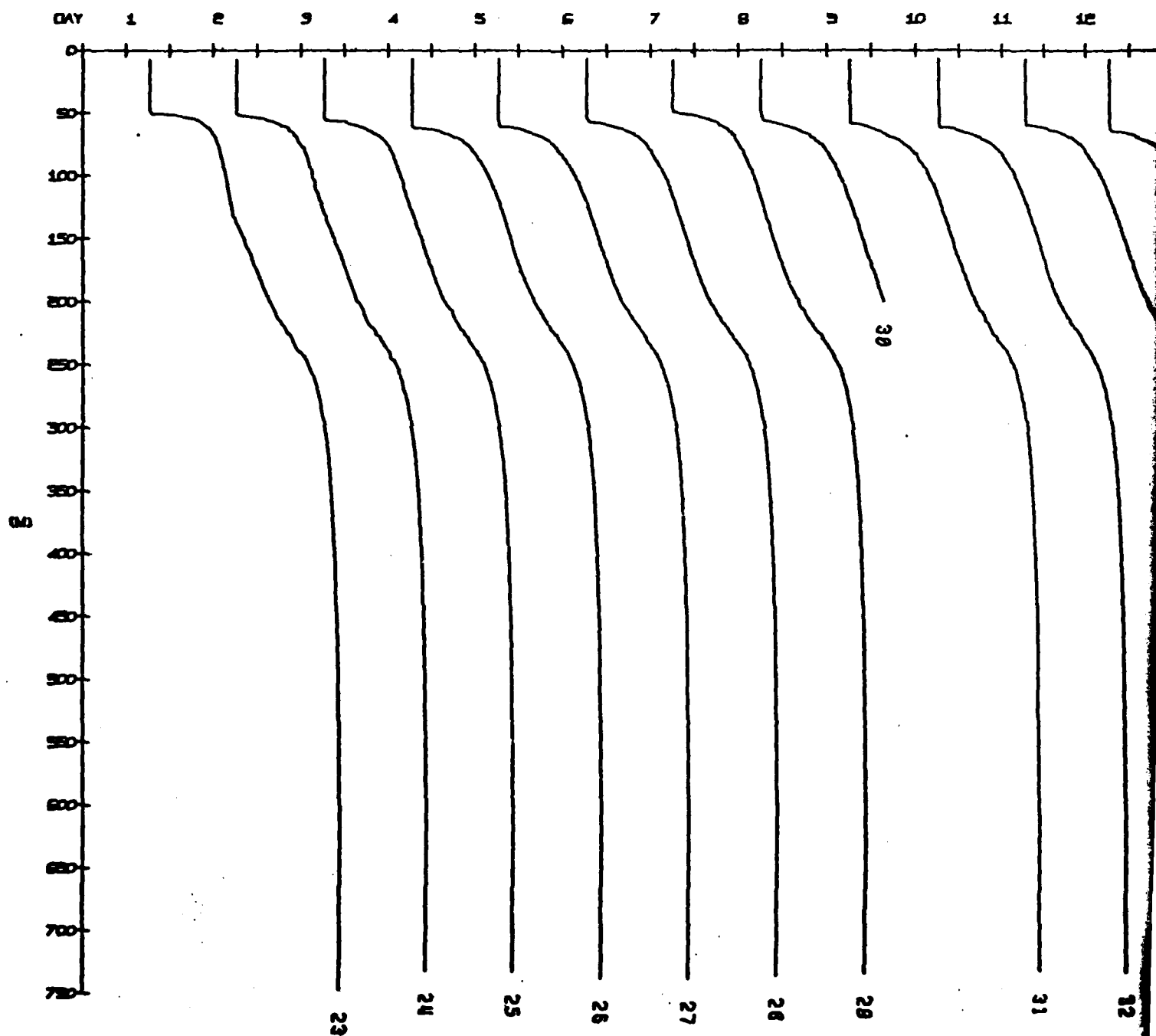
MAY 1, 1975 TO MAY 31, 1975



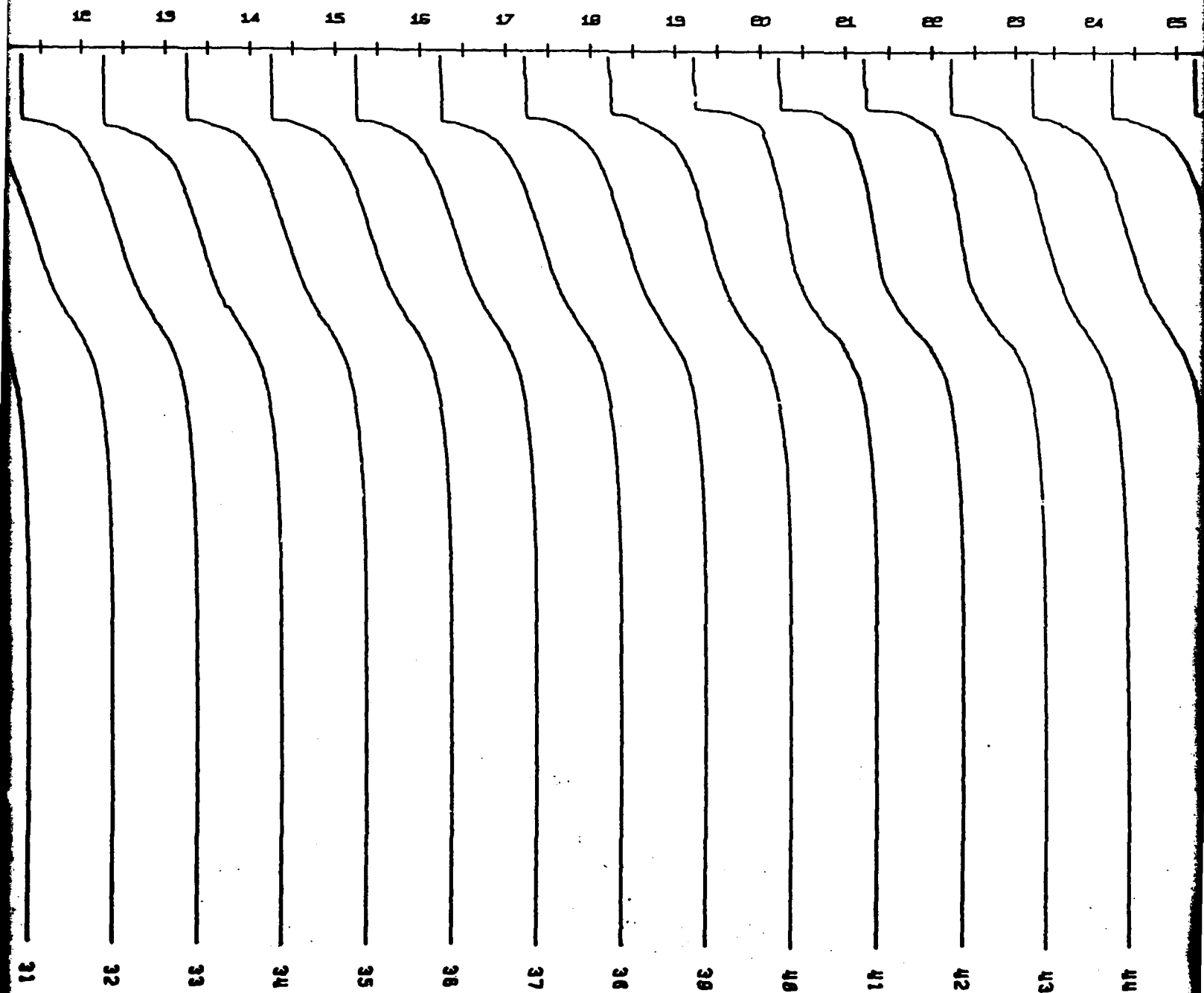


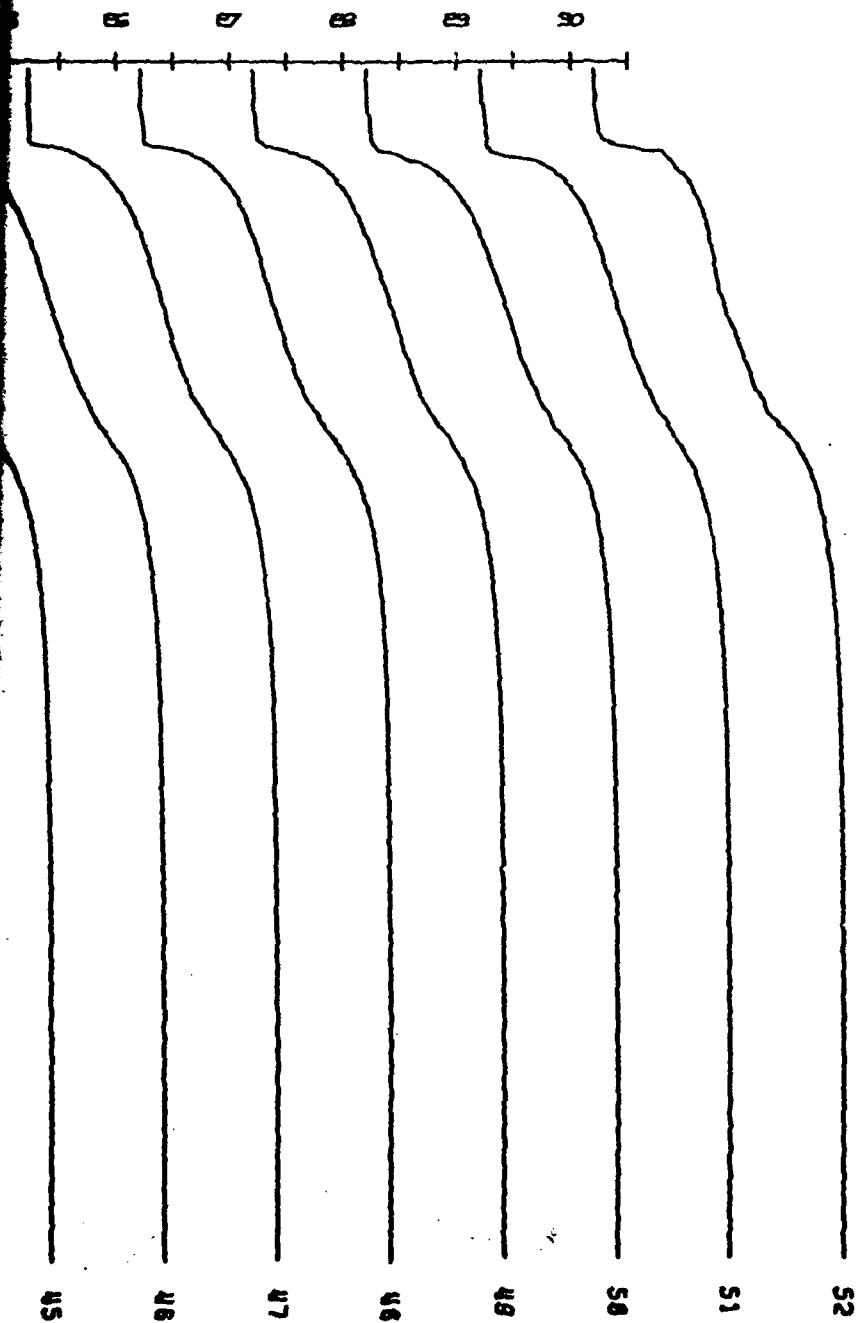
# SALINITY

- NO MORE THAN ONE PROFILE PER HALF DAY (AM/PM GMT) IS PLOTTED
- EACH PROFILE PLOTTED WITH RESPECT TO LEFT DIVISION MARK (30.0 PPT)
- SALINITY SCALE SHIFTS RIGHT 1 DIVISION ( 1.0 PPT) PER HALF DAY



SALINITY PROFILES AT CAMP BLUE FOX  
JUN 1, 1975 TO JUN 30, 1975

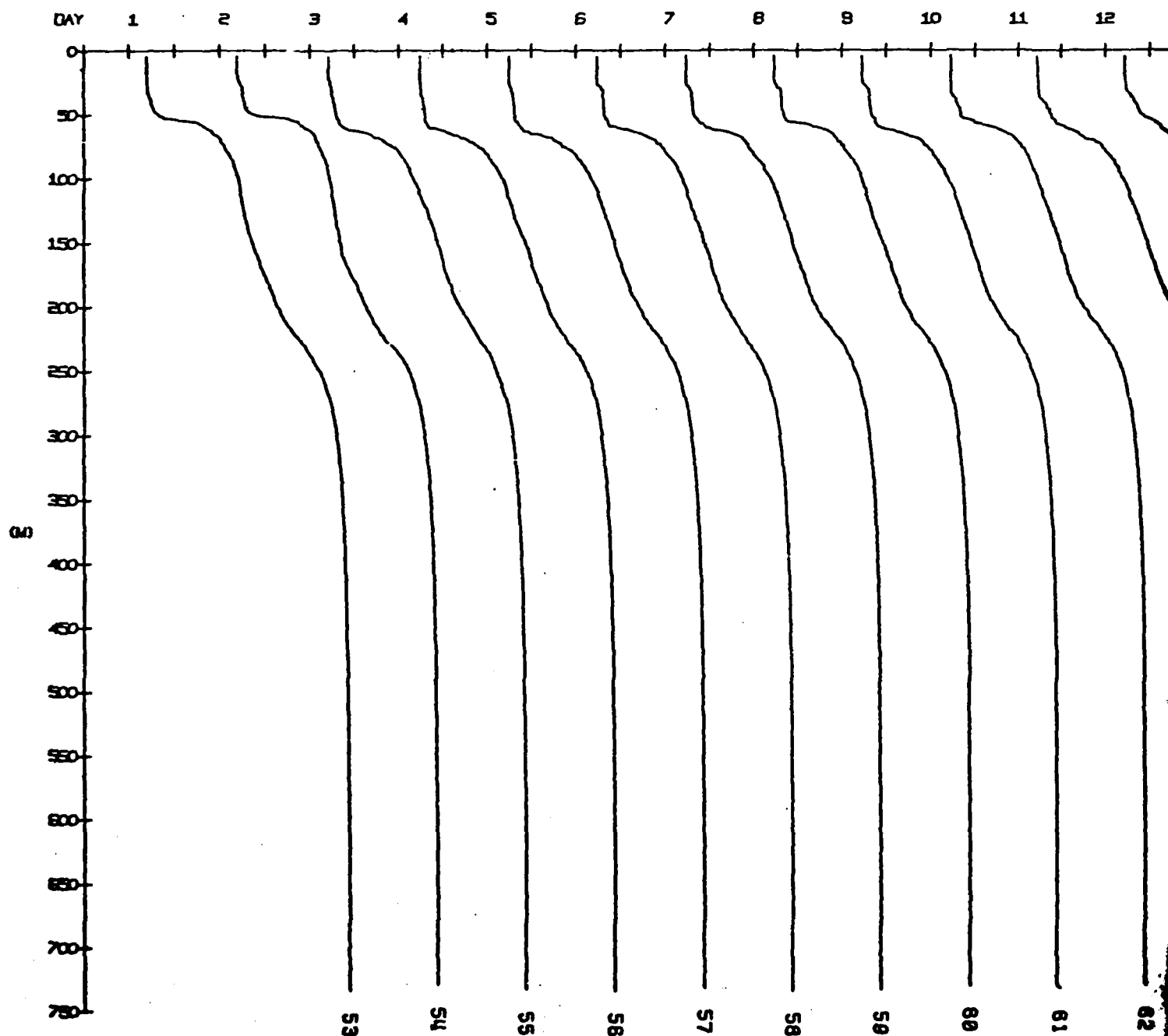




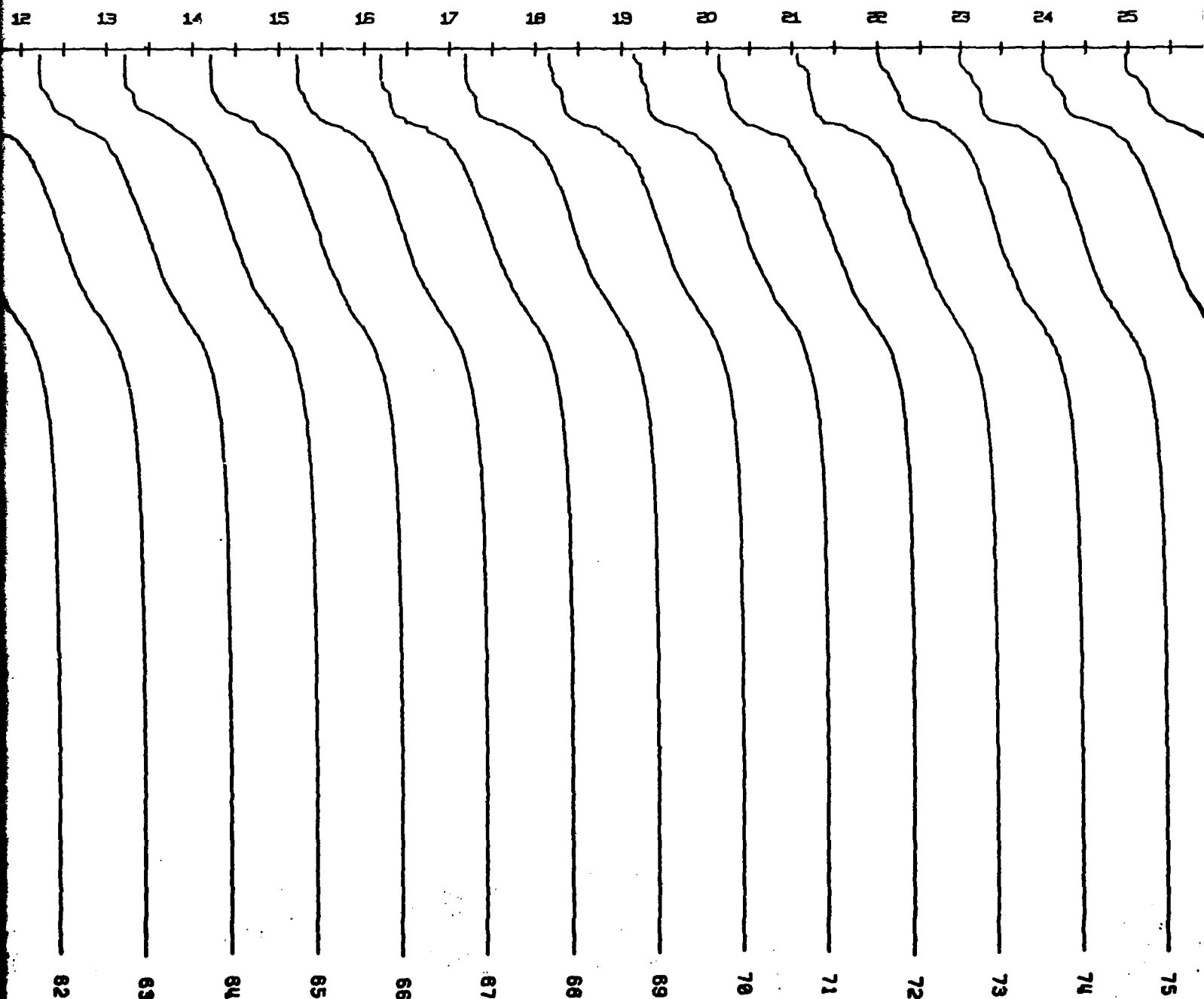


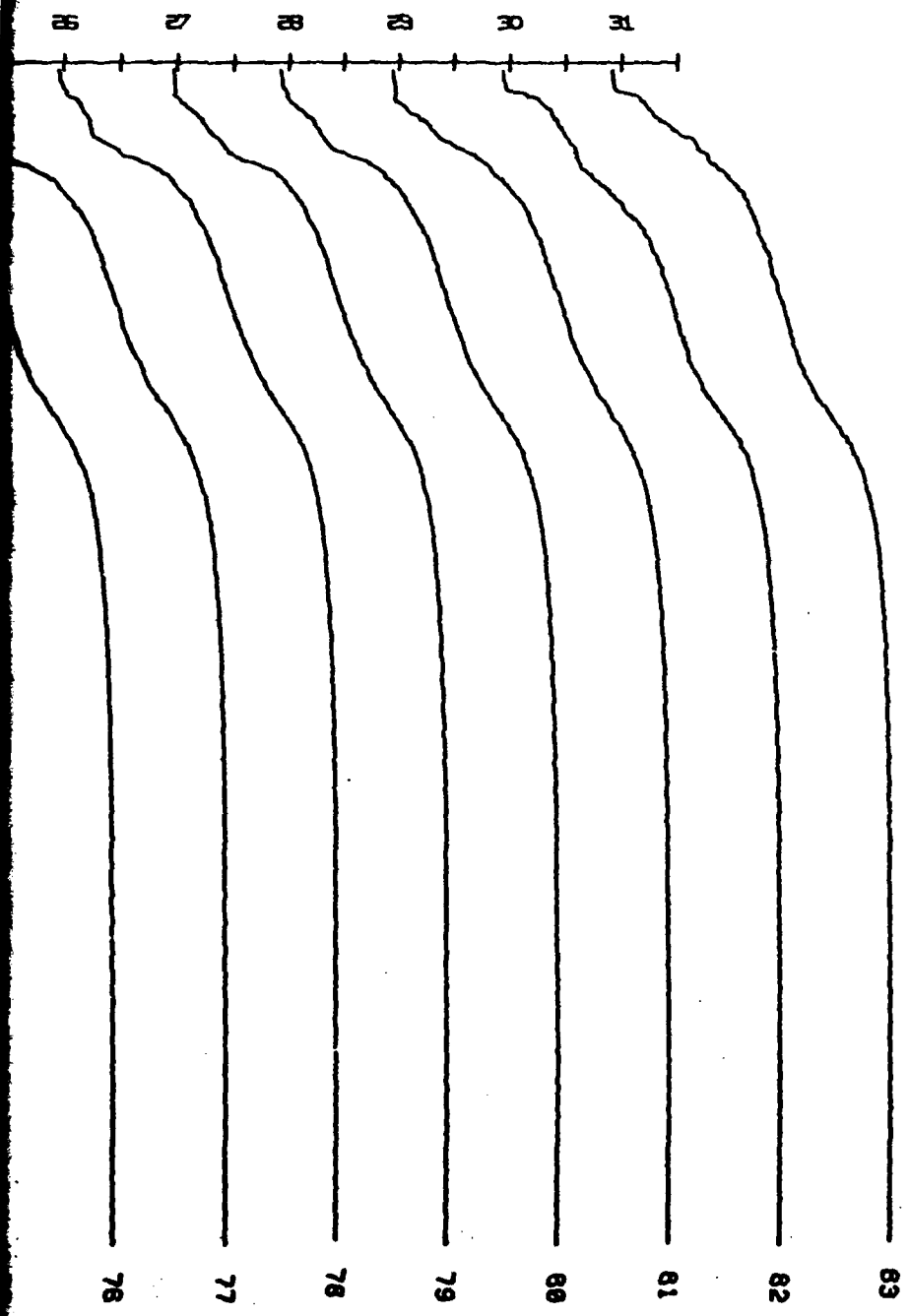
SA

- NO MORE THAN ONE PROFILE PER HALF DAY (AM/PM GMT) IS PLOTTED
- EACH PROFILE PLOTTED WITH RESPECT TO LEFT DIVISION MARK (30.0 PPT)
- SALINITY SCALE SHIFTS RIGHT 1 DIVISION ( 1.0 PPT) PER HALF DAY



SALINITY PROFILES AT CAMP BLUE FOX  
JUL 1, 1975 TO JUL 31, 1975

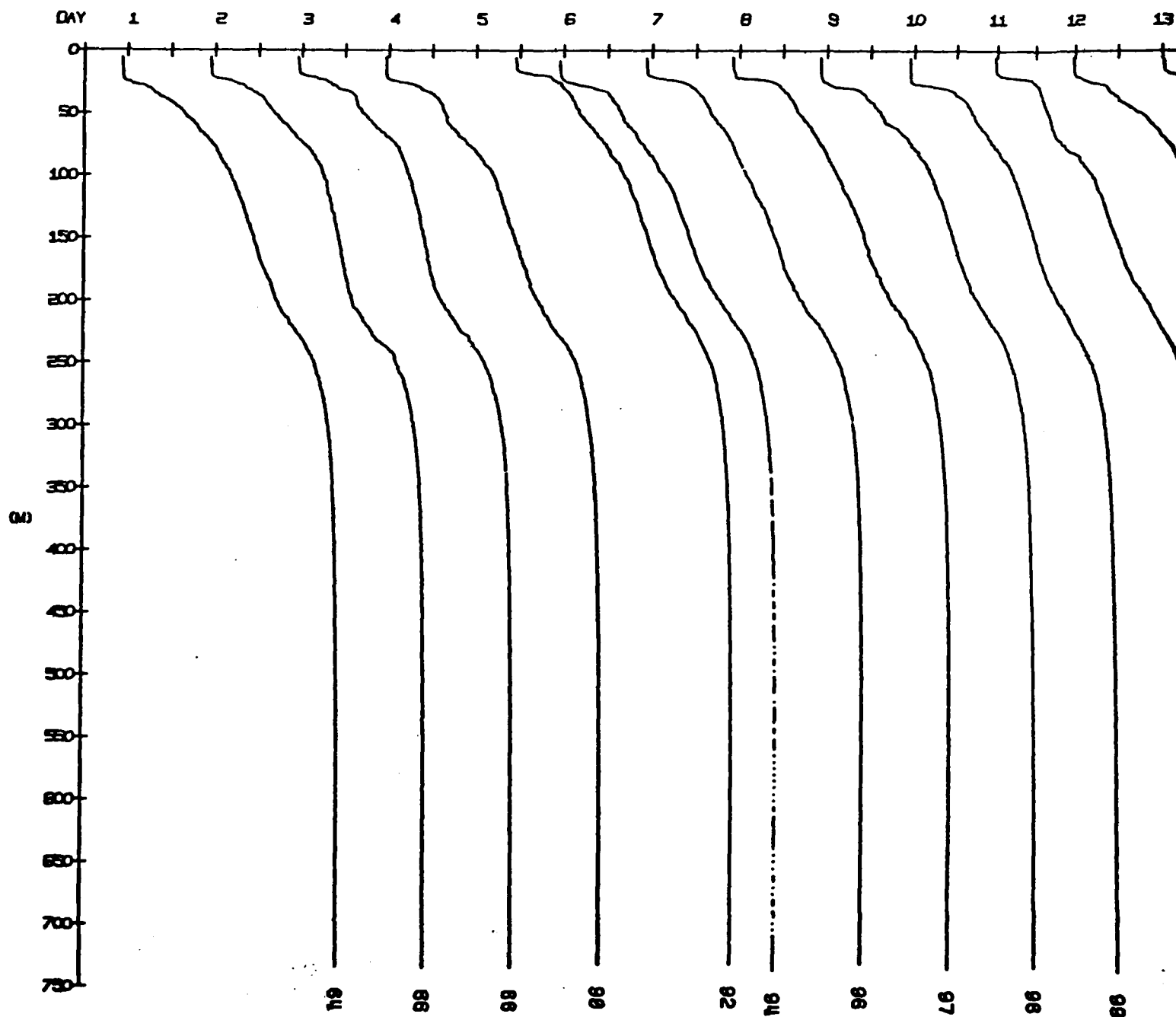




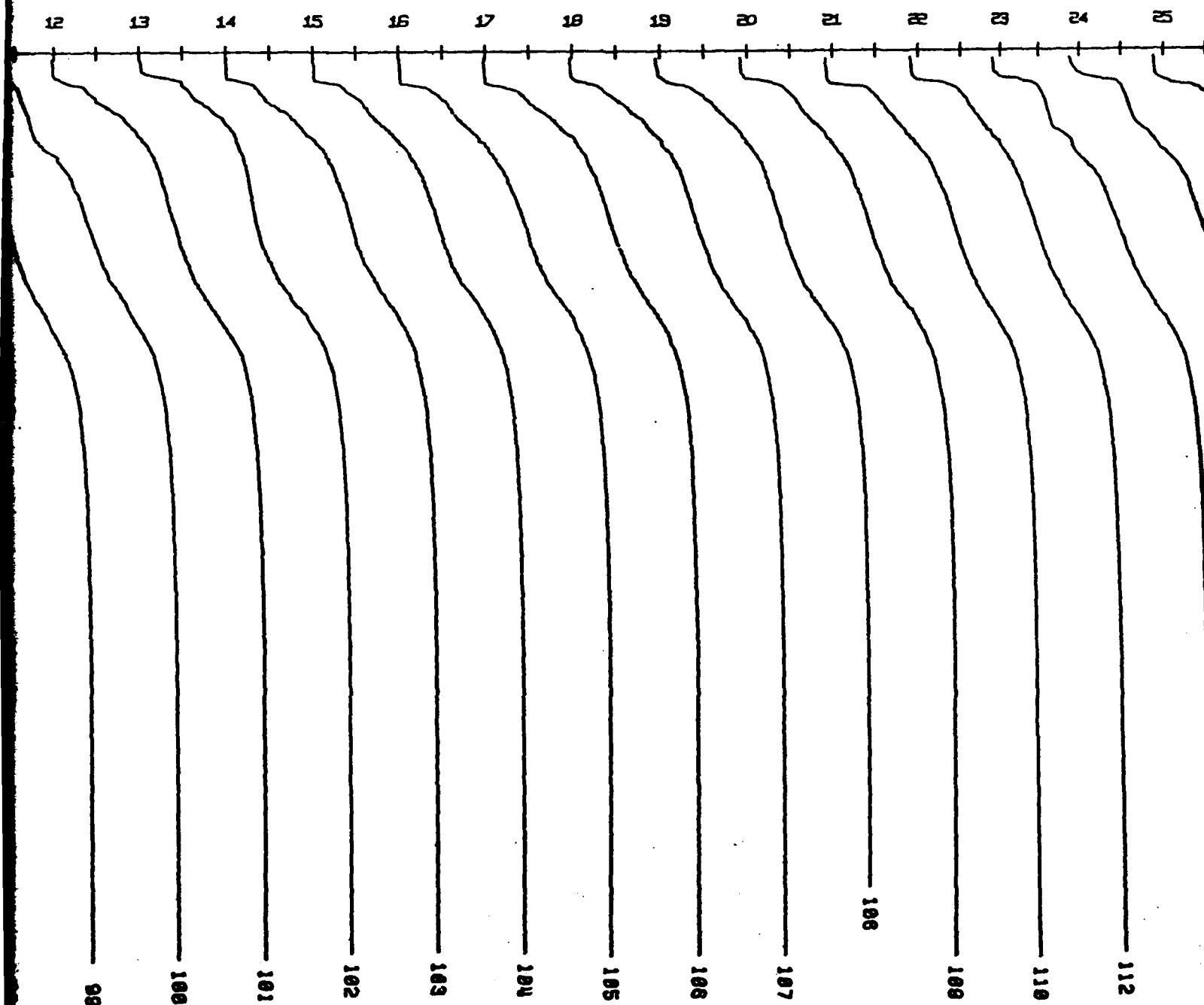
67

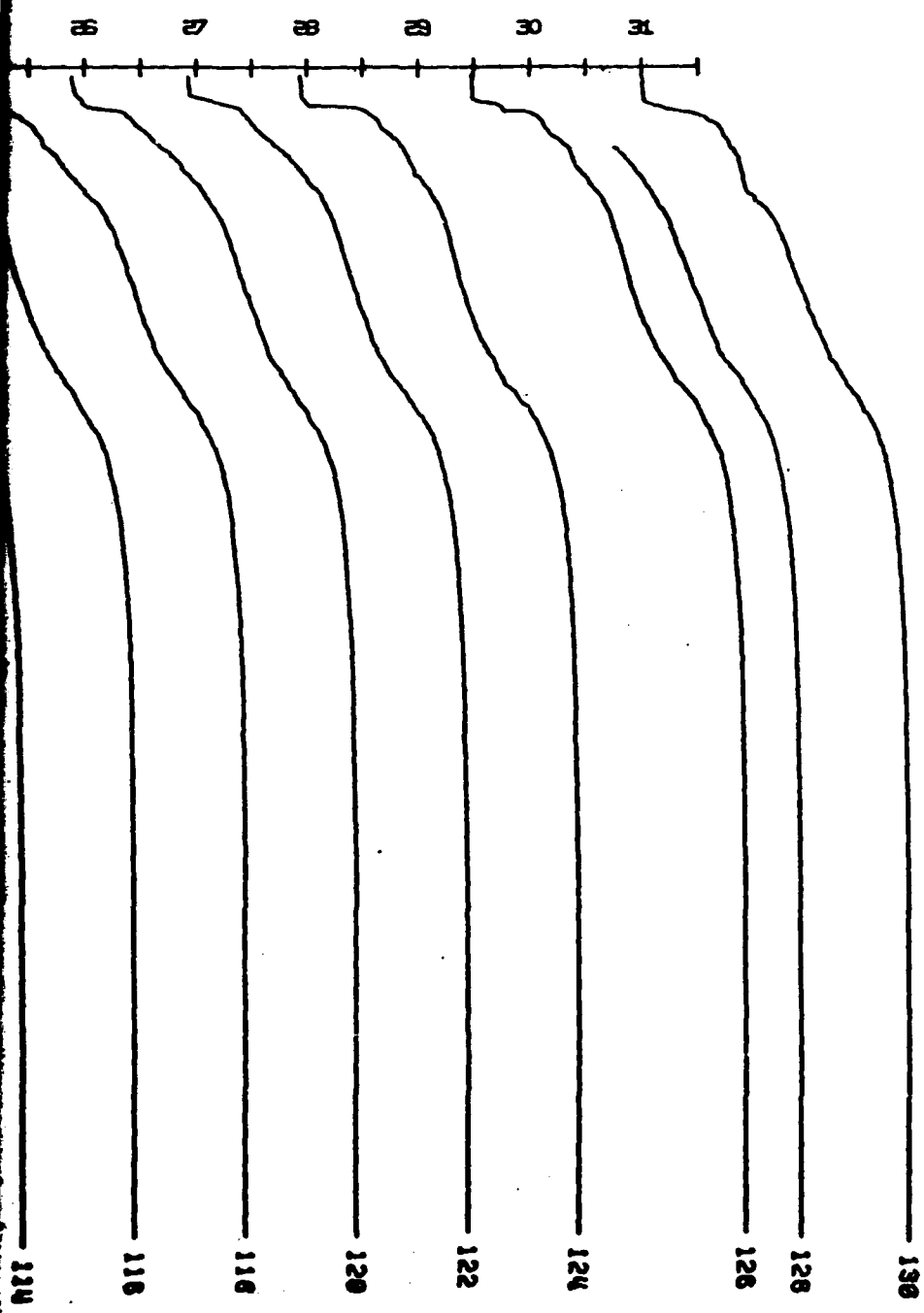
# SALIN

- NO MORE THAN ONE PROFILE PER HALF DAY (AM/PM GMT) IS PLOTTED
- EACH PROFILE PLOTTED WITH RESPECT TO LEFT DIVISION MARK (30.0 PPT)
- SALINITY SCALE SHIFTS RIGHT 1 DIVISION ( 1.0 PPT) PER HALF DAY



SALINITY PROFILES AT CAMP BLUE FOX  
AUG 1, 1975 TO AUG 31, 1975

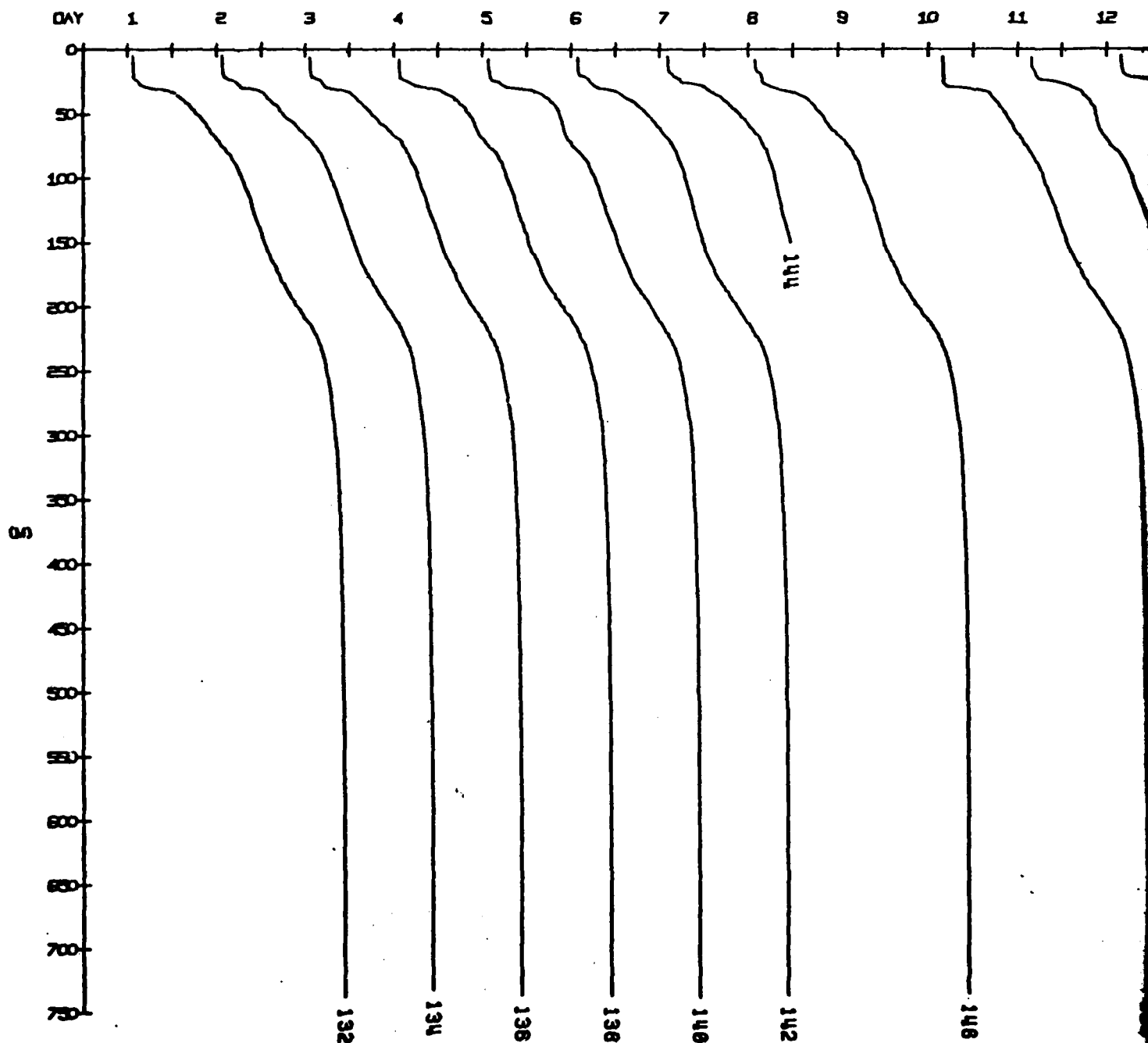




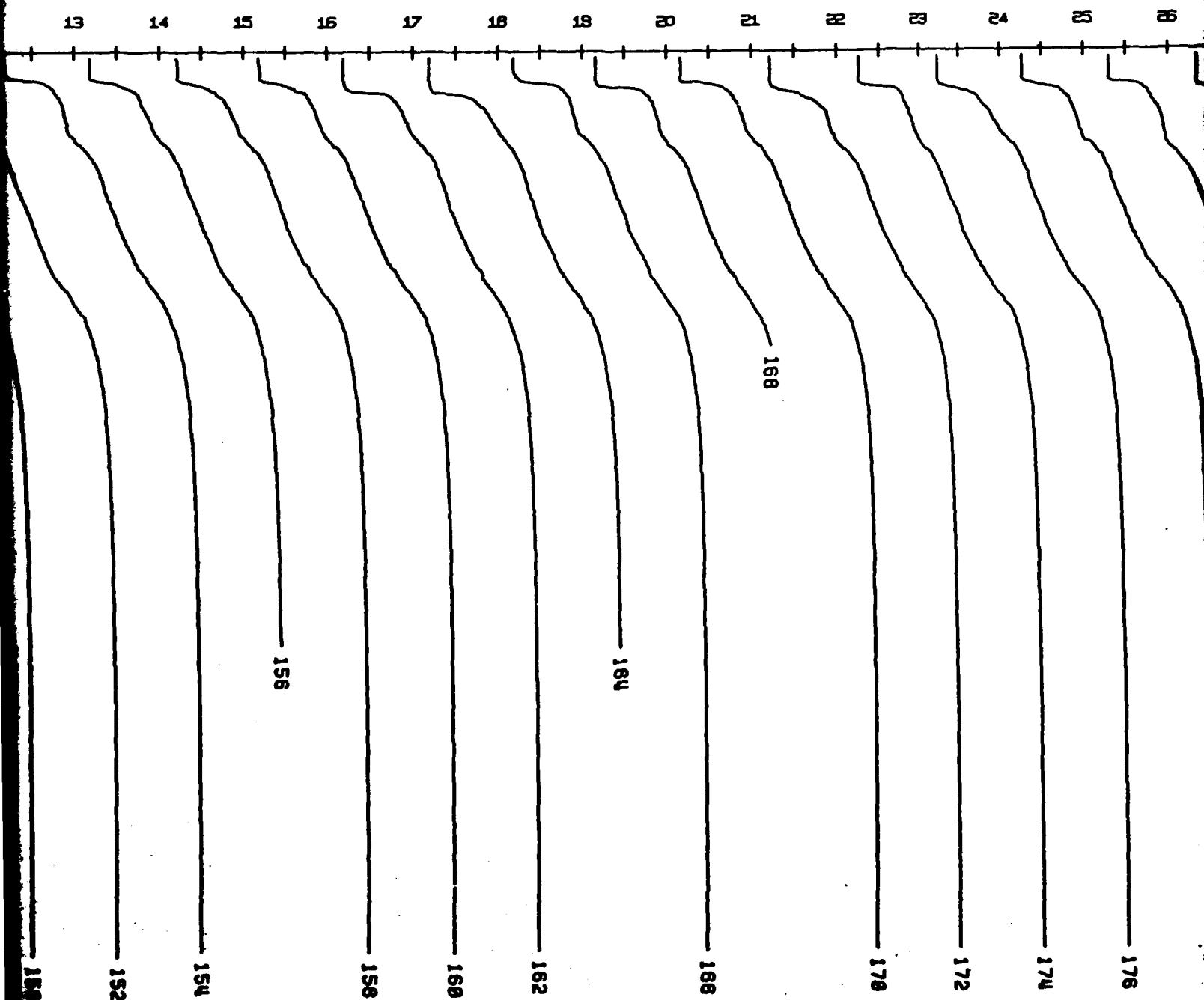
27

SAL

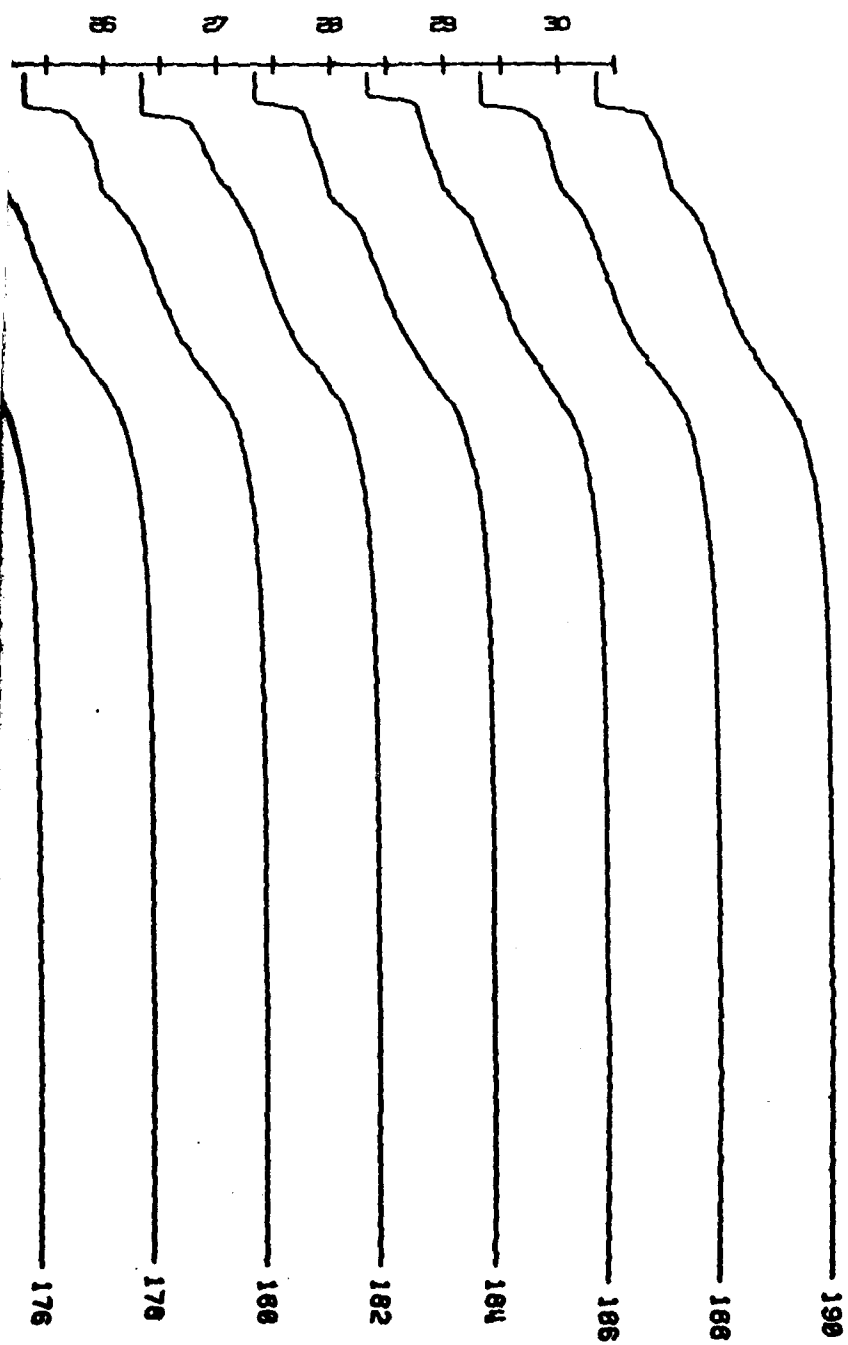
- NO MORE THAN ONE PROFILE PER HALF DAY (AM/PM GMT) IS PLOTTED
- EACH PROFILE PLOTTED WITH RESPECT TO LEFT DIVISION MARK (30.0 PPT)
- SALINITY SCALE SHIFTS RIGHT 1 DIVISION ( 1.0 PPT) PER HALF DAY



LINEITY PROFILES AT CAMP BLUE FOX  
SEP 1, 1975 TO SEP 30, 1975

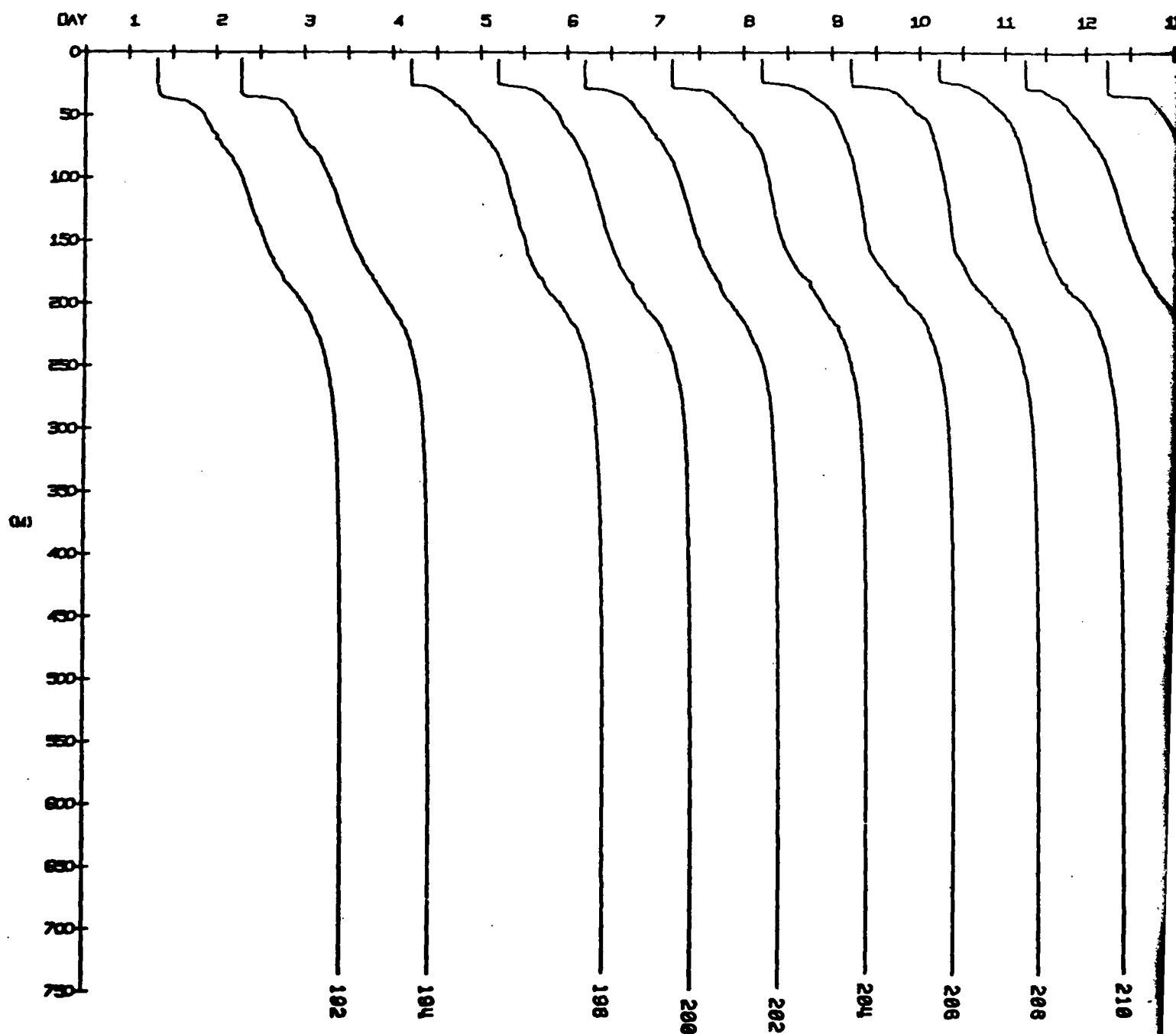




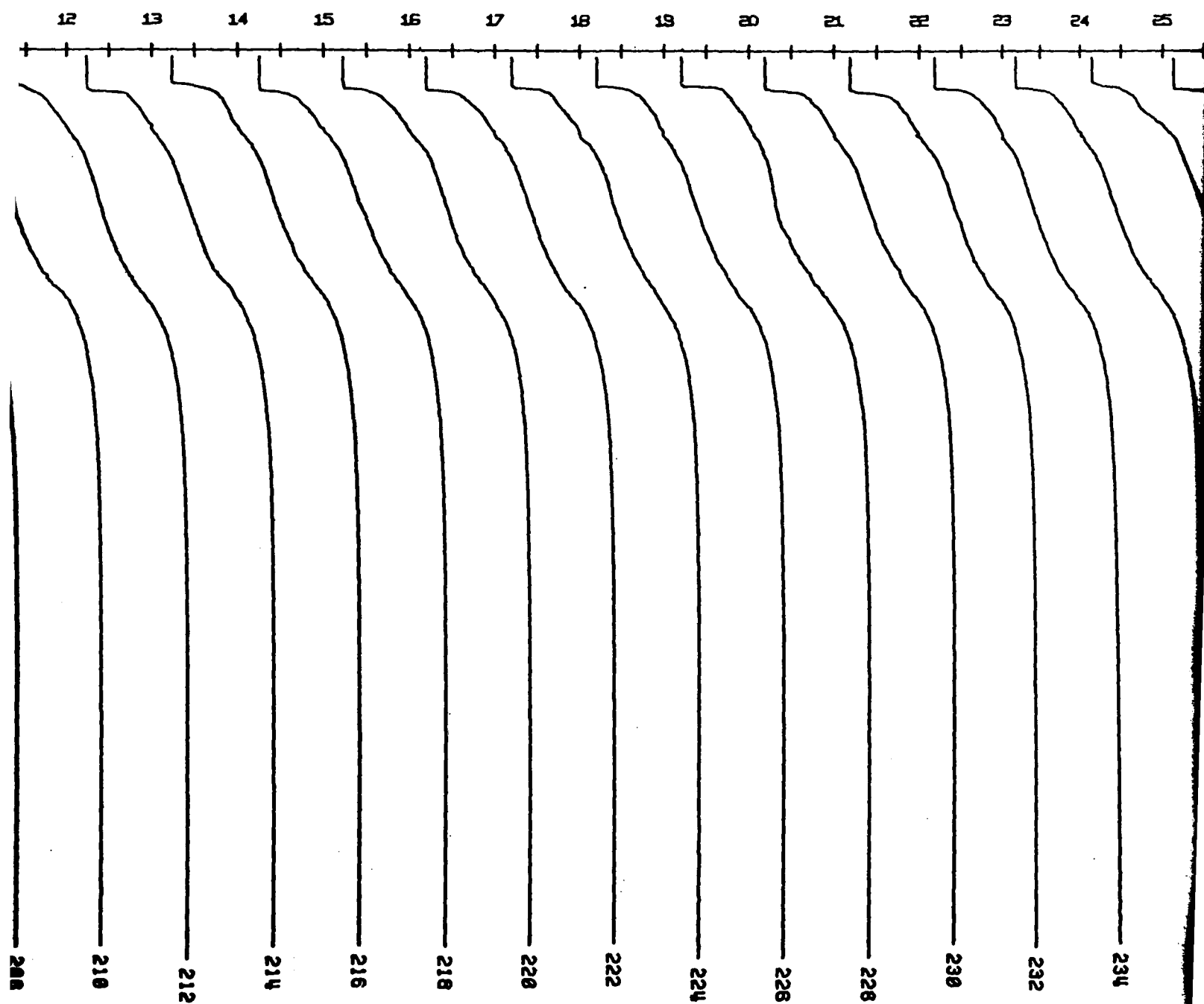


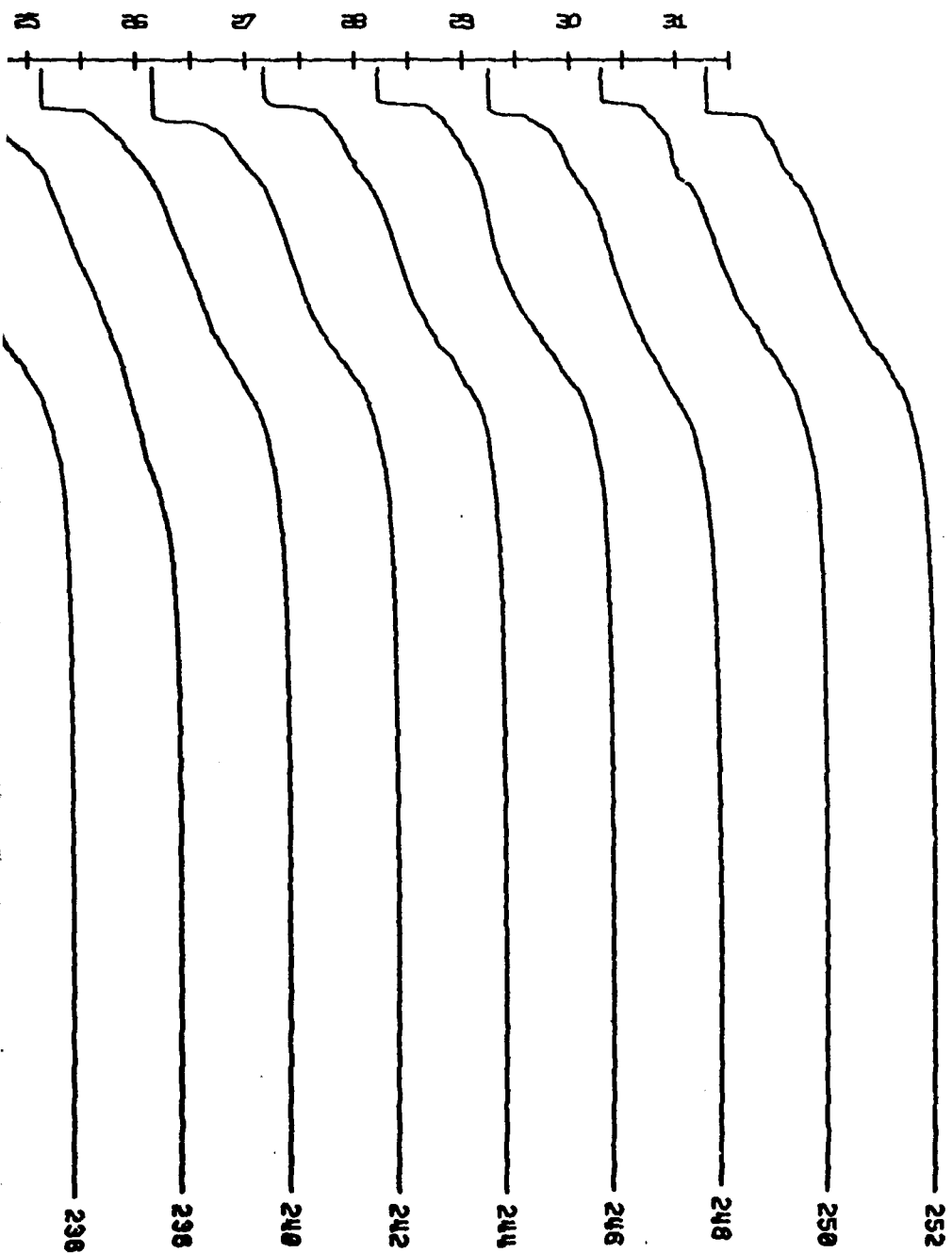
SAL

- NO MORE THAN ONE PROFILE PER HALF DAY (AM/PM GMT) IS PLOTTED
- EACH PROFILE PLOTTED WITH RESPECT TO LEFT DIVISION MARK (30.0 PPT)
- SALINITY SCALE SHIFTS RIGHT 1 DIVISION ( 1.0 PPT) PER HALF DAY



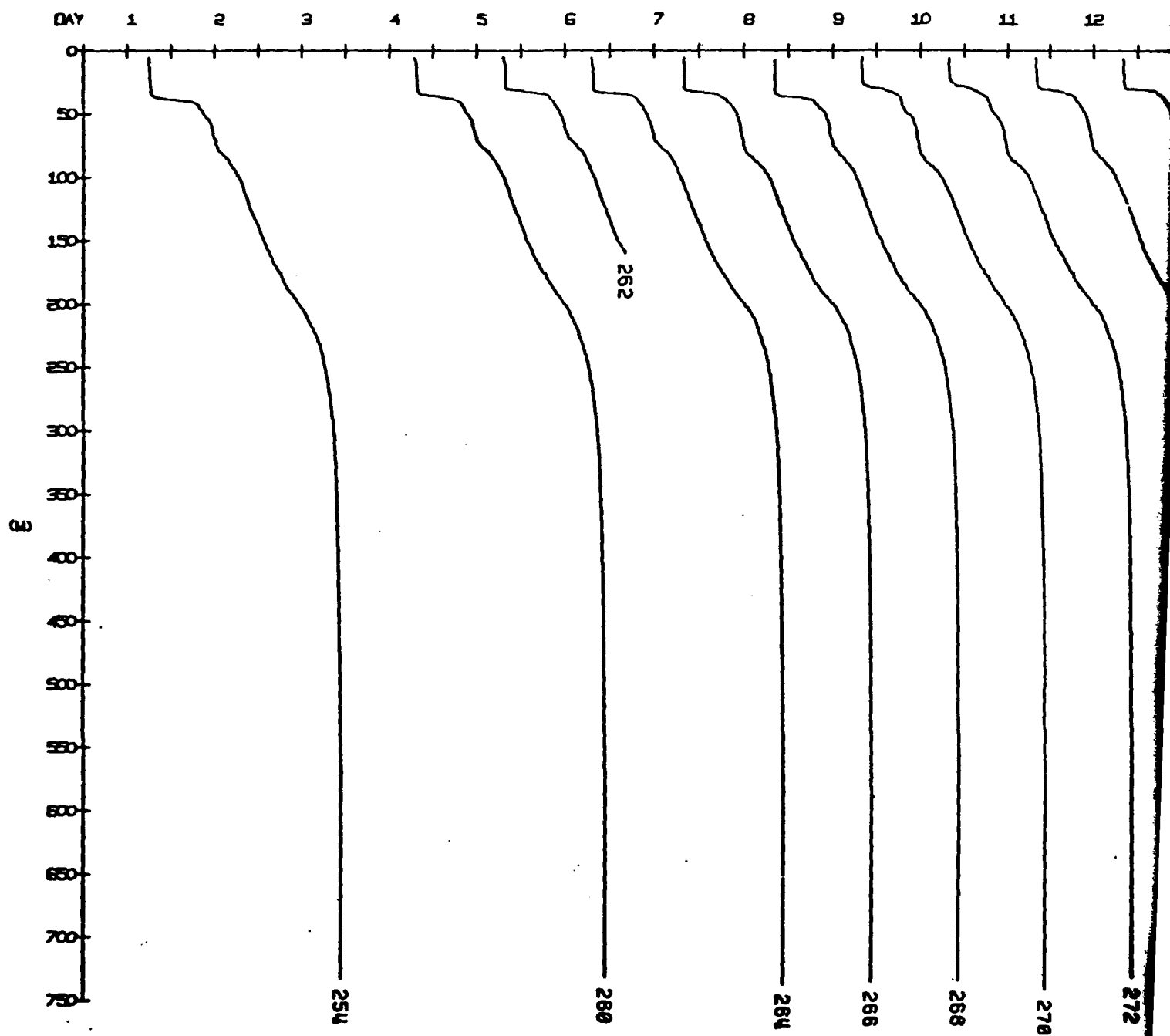
SALINITY PROFILES AT CAMP BLUE FOX  
OCT 1, 1975 TO OCT 31, 1975



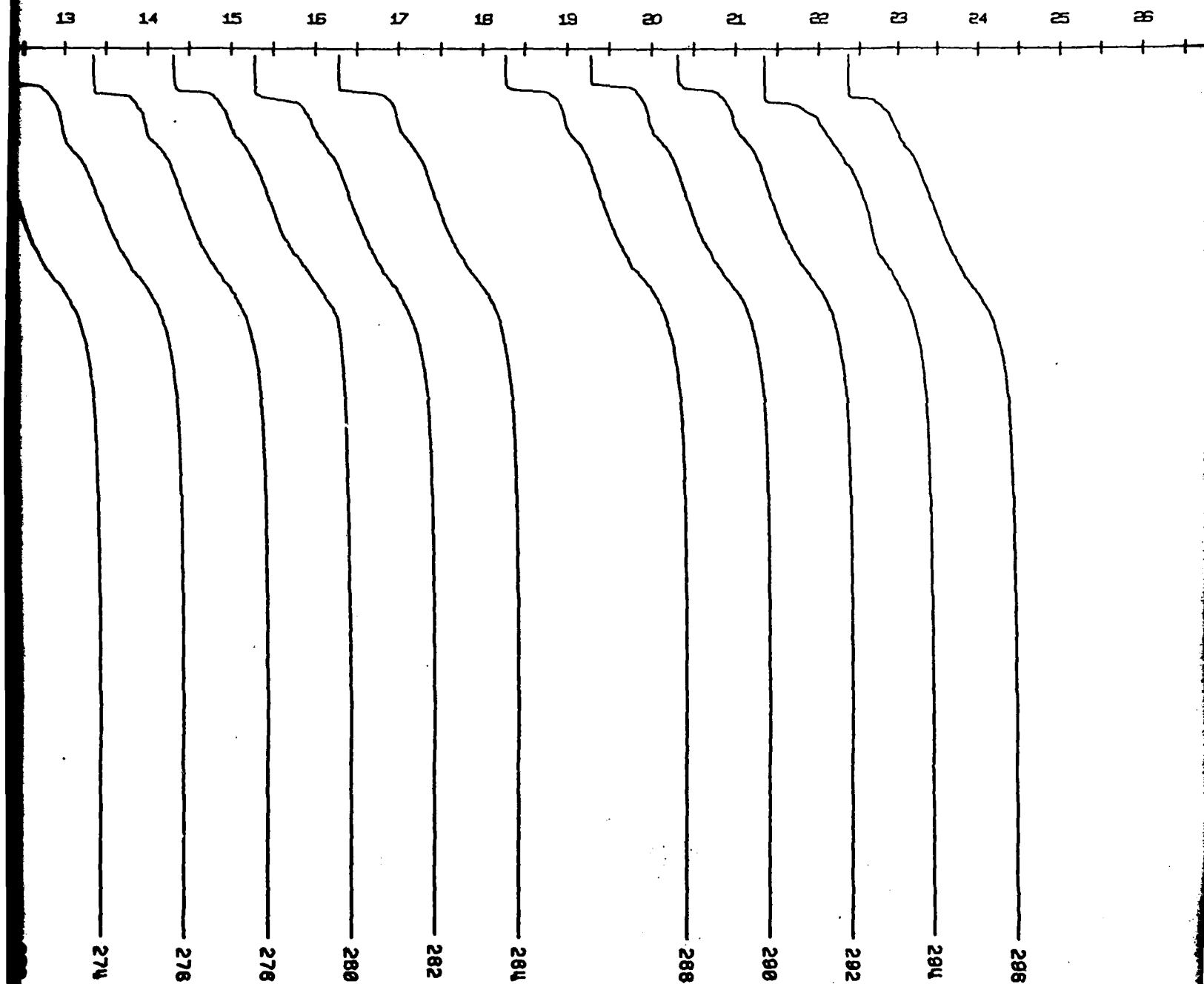


# SALINITY

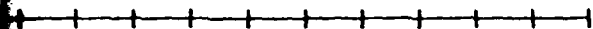
- NO MORE THAN ONE PROFILE PER HALF DAY (AM/PM G.M.T) IS PLOTTED
- EACH PROFILE PLOTTED WITH RESPECT TO LEFT DIVISION MARK (30.0 PPT)
- SALINITY SCALE SHIFTS RIGHT 1 DIVISION ( 1.0 PPT) PER HALF DAY



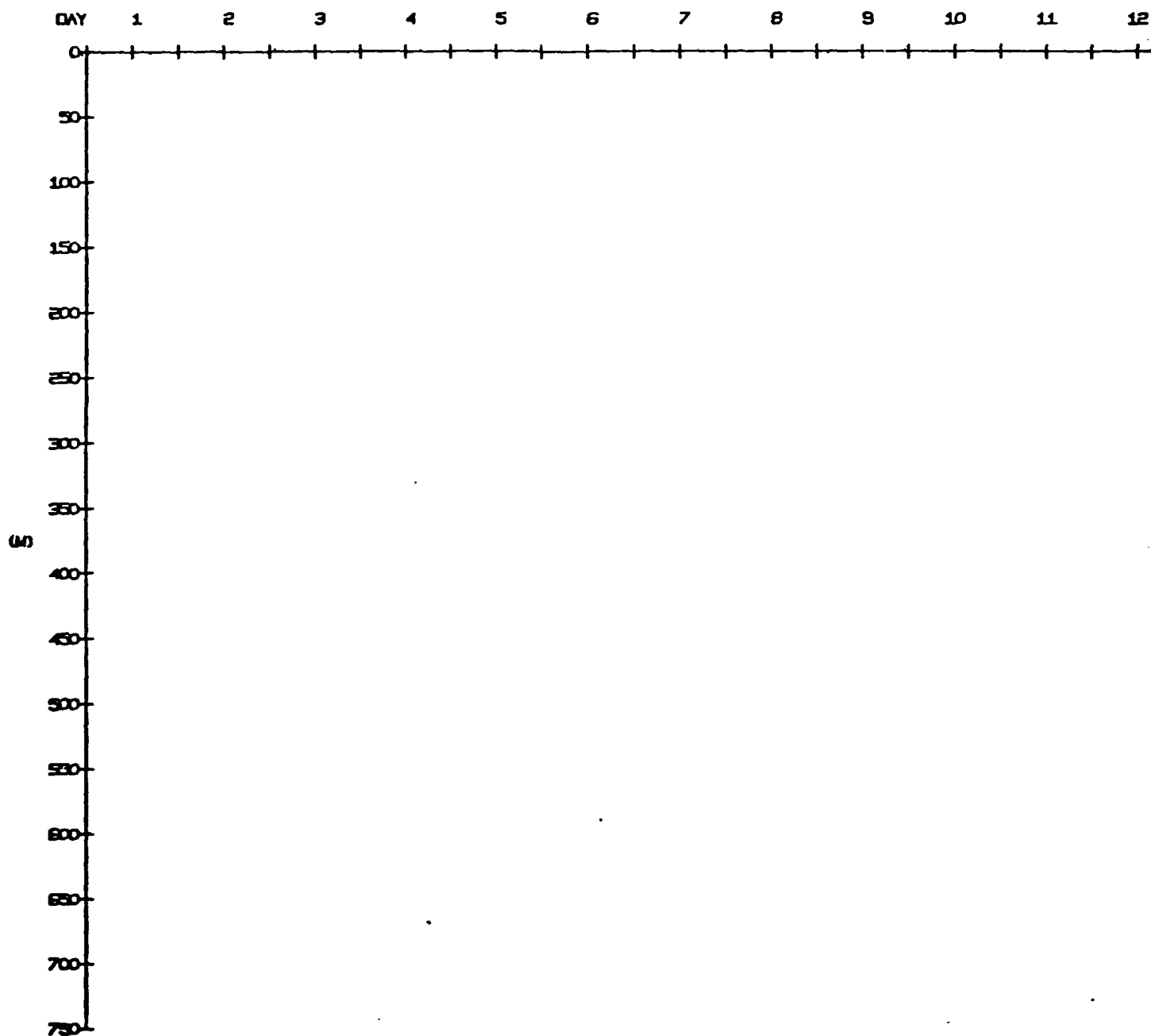
INITY PROFILES AT CAMP BLUE FOX  
NOV 1, 1975 TO NOV 30, 1975



26 27 28 29 30

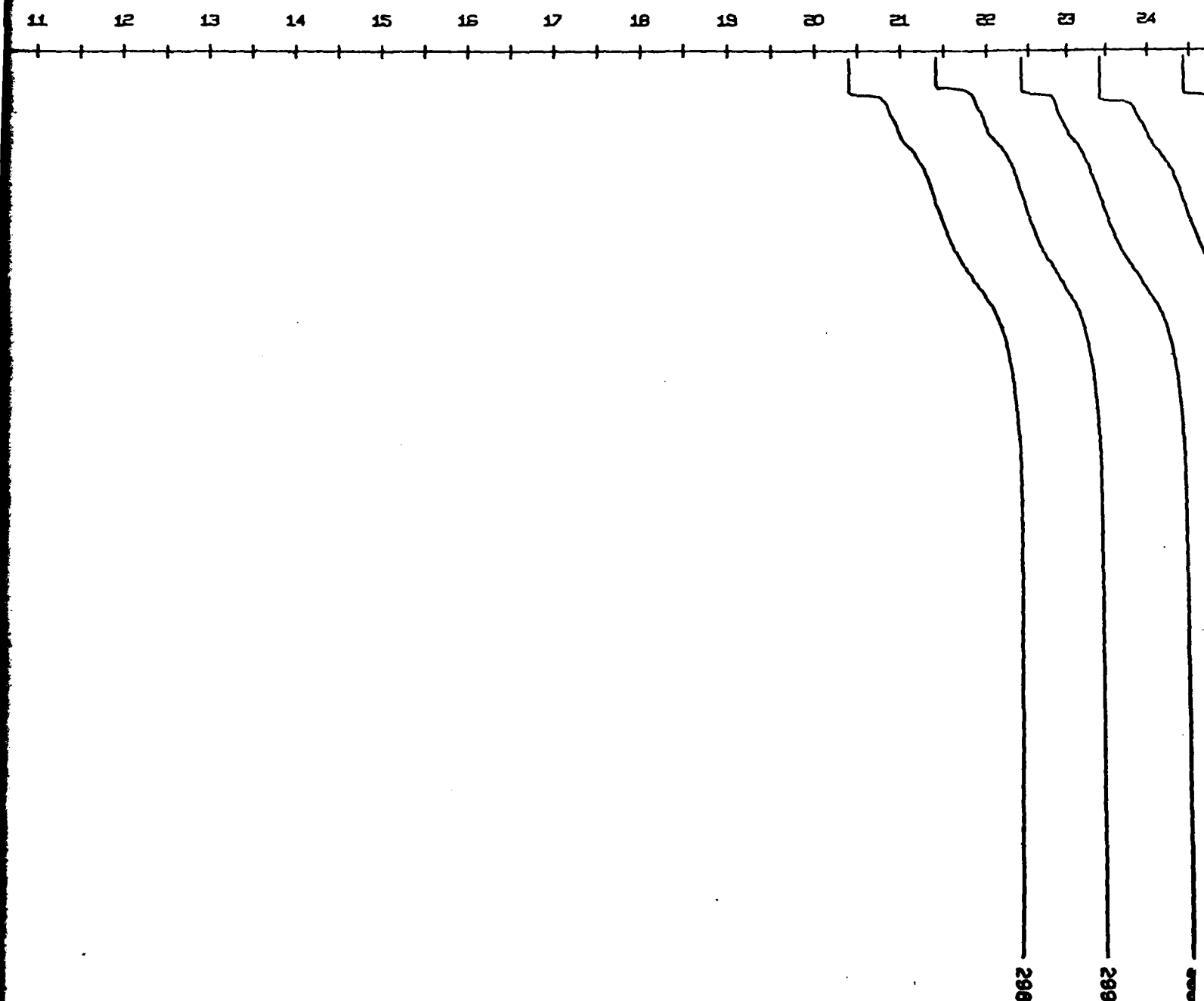


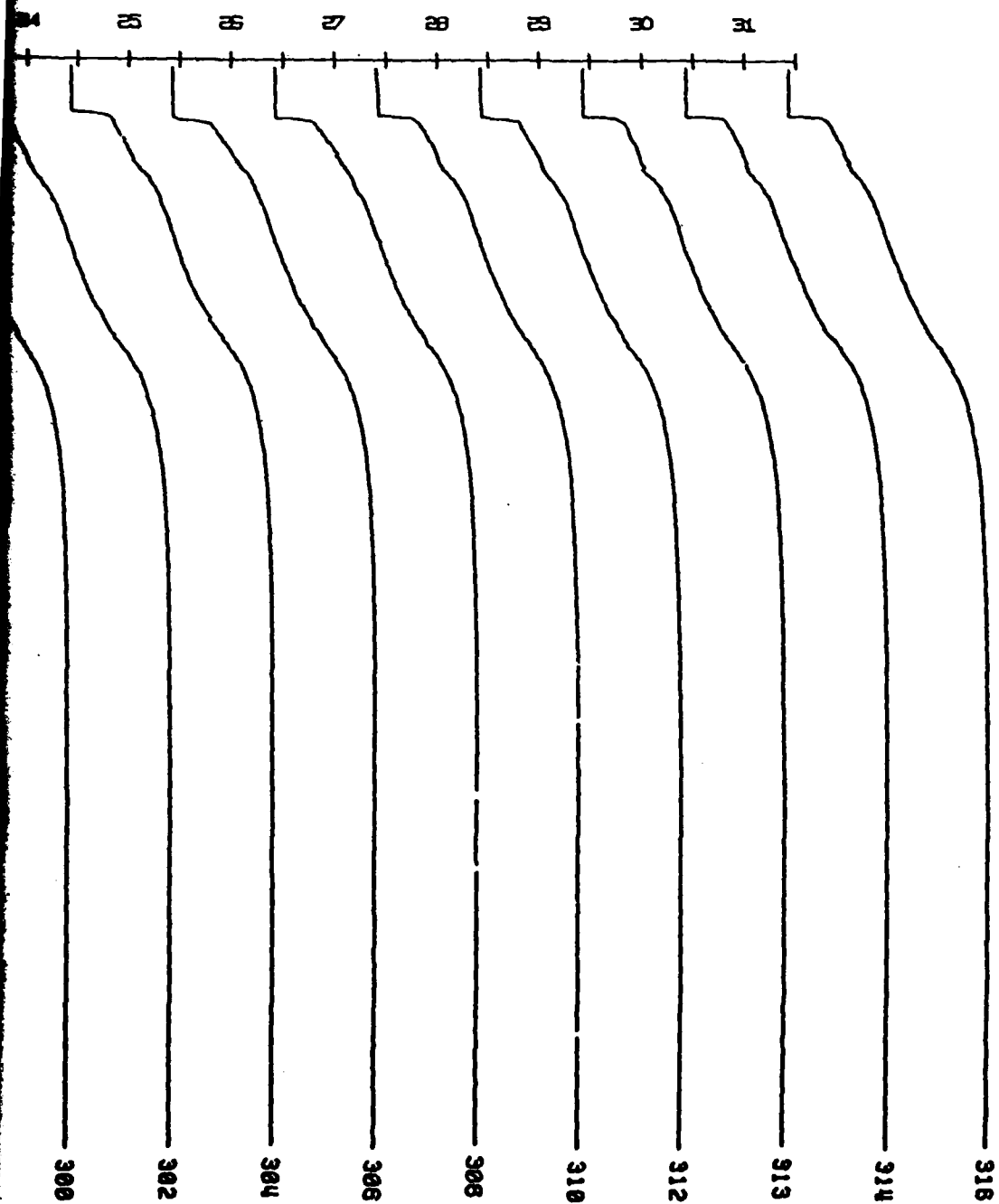
- NO MORE THAN ONE PROFILE PER HALF DAY (AM/PM GMT) IS PLOTTED
- EACH PROFILE PLOTTED WITH RESPECT TO LEFT DIVISION MARK (30.0 PPT)
- SALINITY SCALE SHIFTS RIGHT 1 DIVISION ( 1.0 PPT) PER HALF DAY



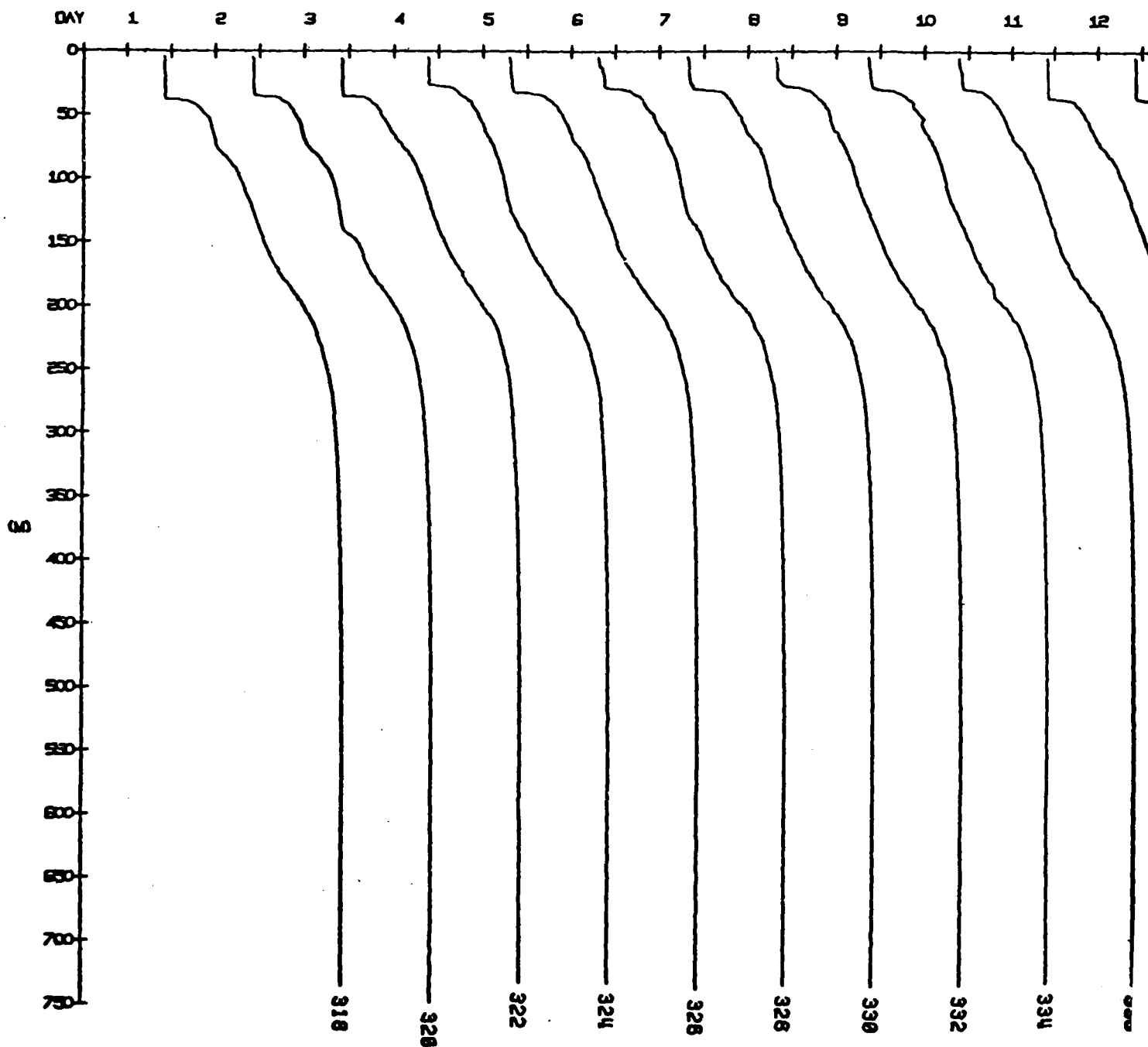


SALINITY PROFILES AT CAMP BLUE FOX  
DEC 1, 1975 TO DEC 31, 1975

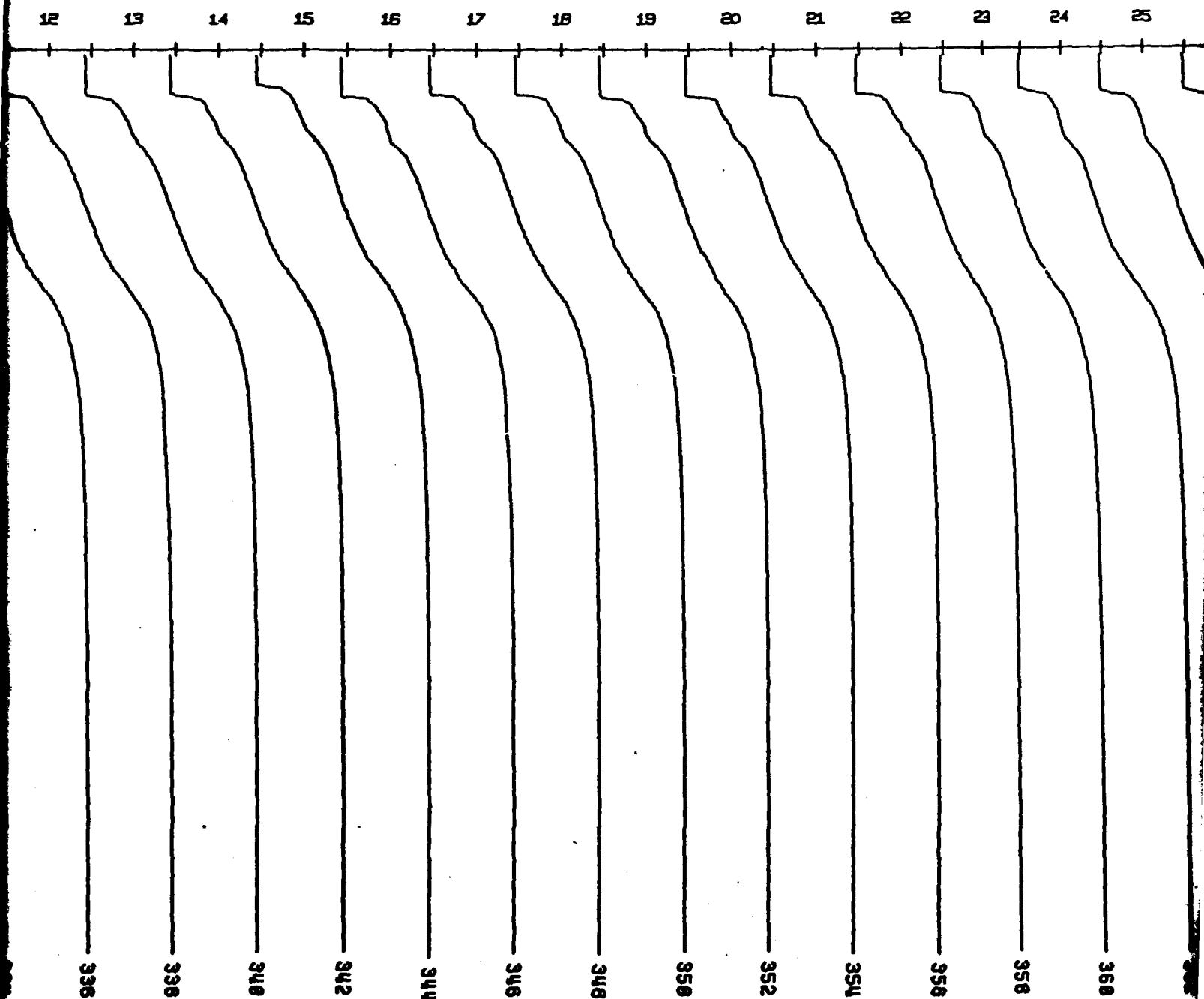


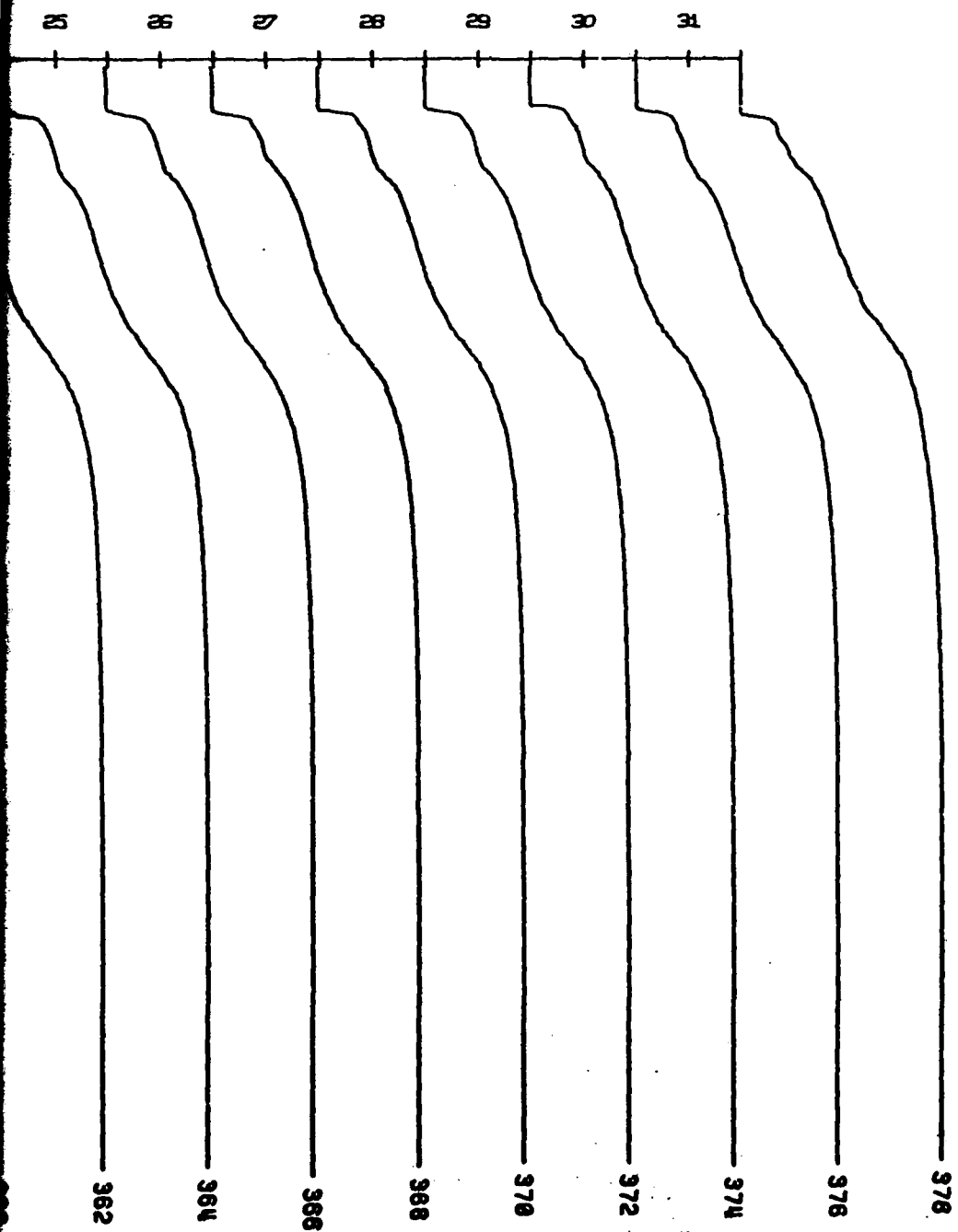


- NO MORE THAN ONE PROFILE PER HALF DAY (AM/PM GMT) IS PLOTTED
- EACH PROFILE PLOTTED WITH RESPECT TO LEFT DIVISION MARK (30.0 PPT)
- SALINITY SCALE SHIFTS RIGHT 1 DIVISION ( 1.0 PPT) PER HALF DAY



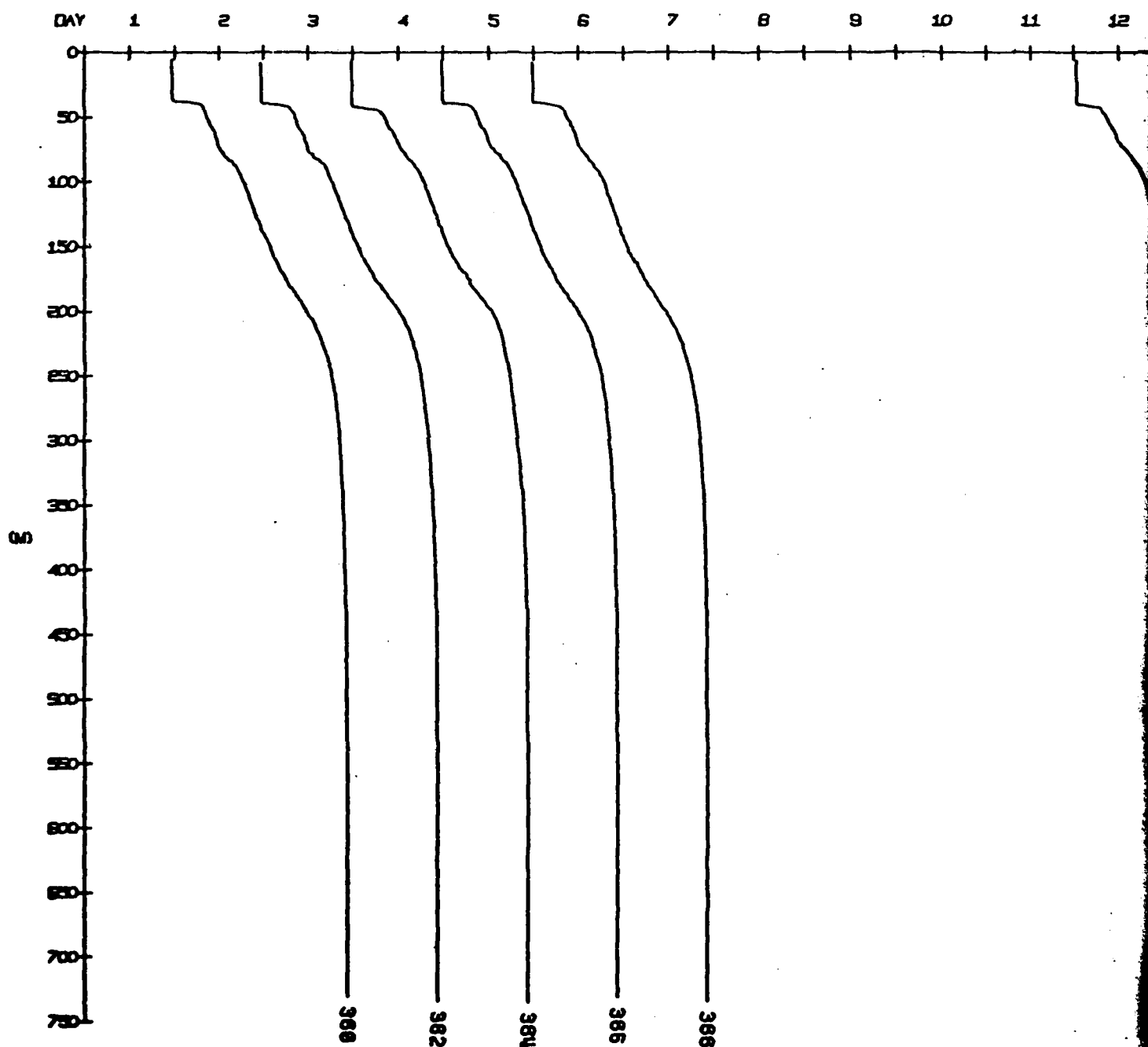
SALINITY PROFILES AT CAMP BLUE FOX  
JAN 1, 1976 TO JAN 31, 1976



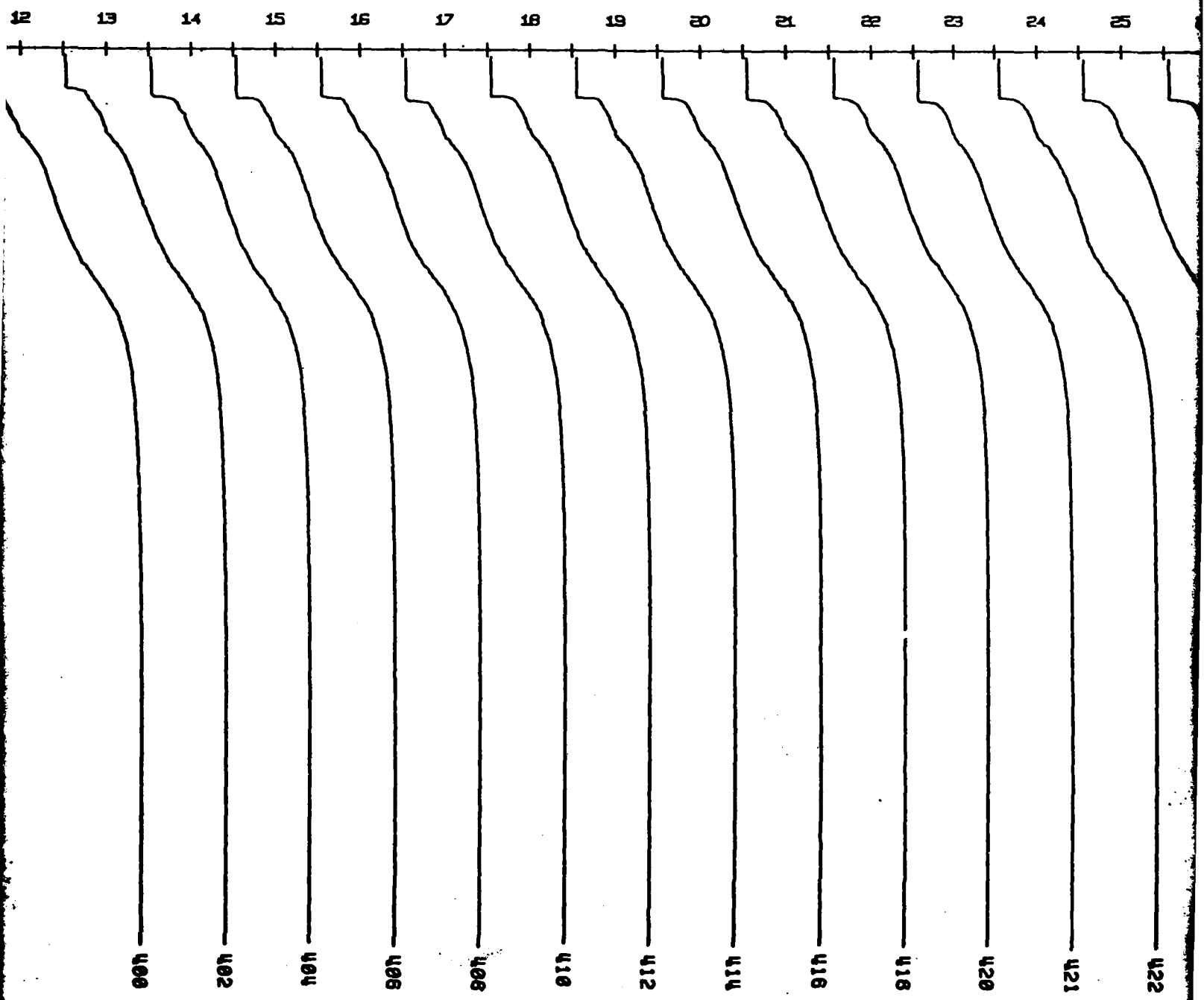


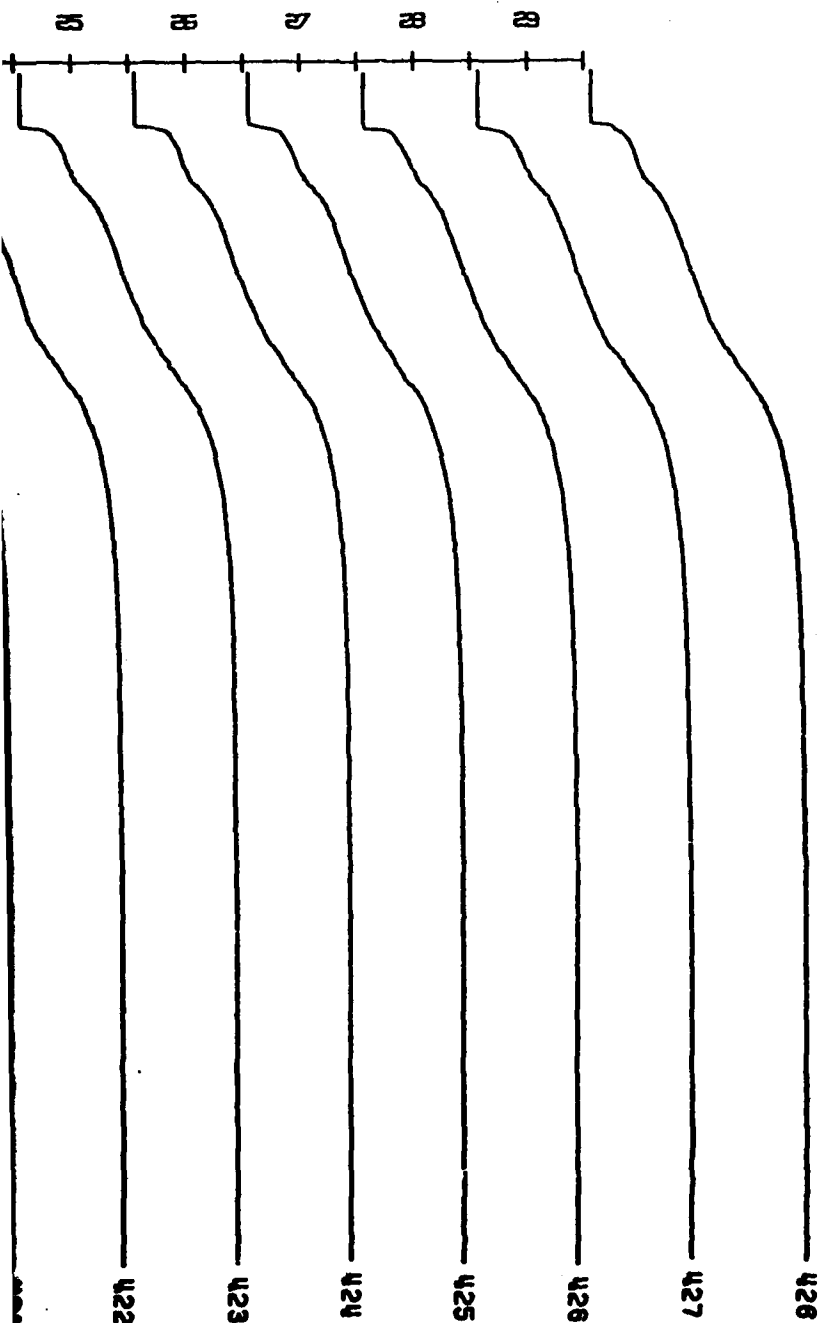
SALINITY  
F

- NO MORE THAN ONE PROFILE PER HALF DAY (AM/PM GMT) IS PLOTTED
- EACH PROFILE PLOTTED WITH RESPECT TO LEFT DIVISION MARK (30.0 PPT)
- SALINITY SCALE SHIFTS RIGHT 1 DIVISION ( 1.0 PPT) PER HALF DAY



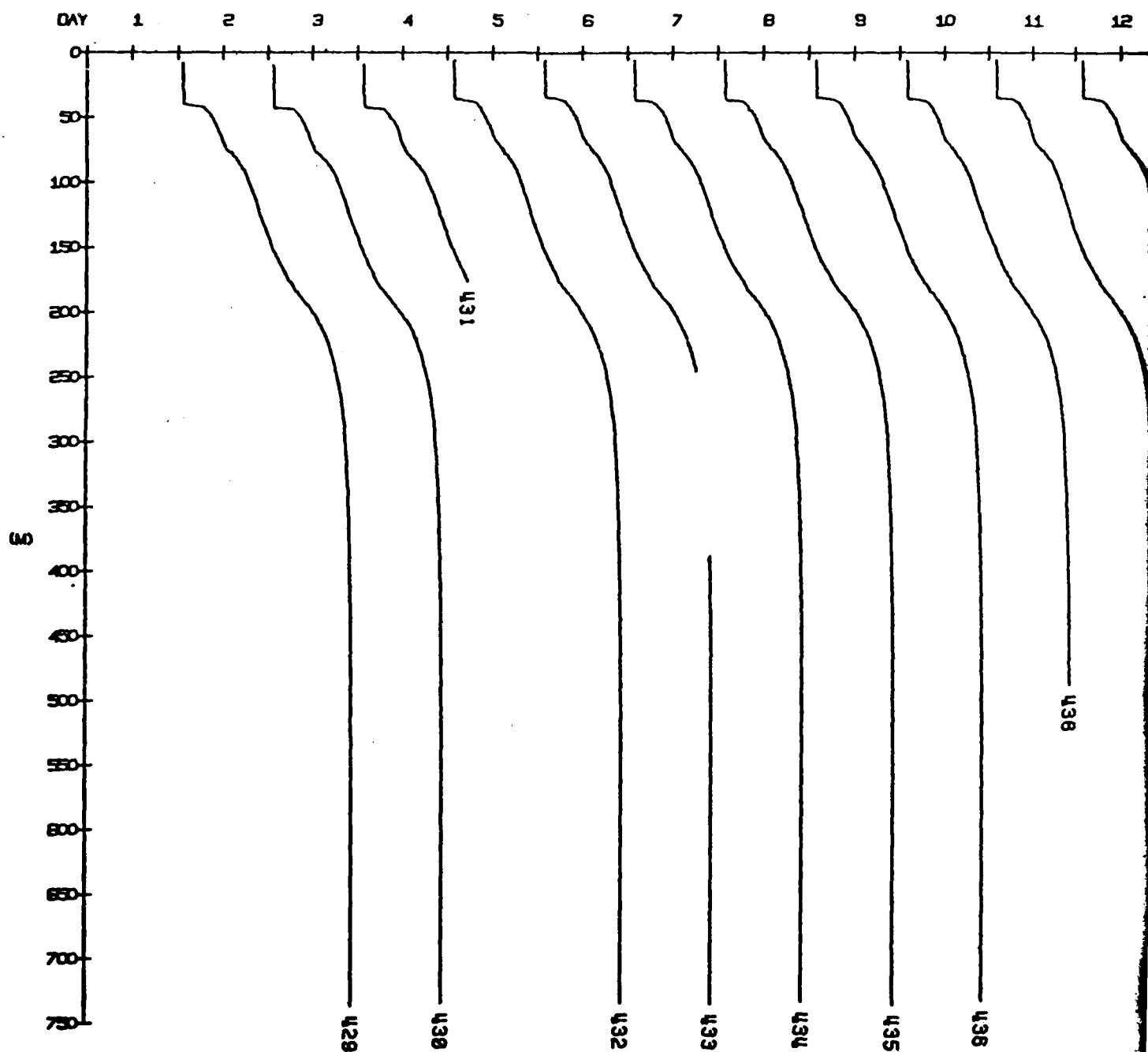
INITY PROFILES AT CAMP BLUE FOX  
FEB 1, 1976 TO FEB 29, 1976



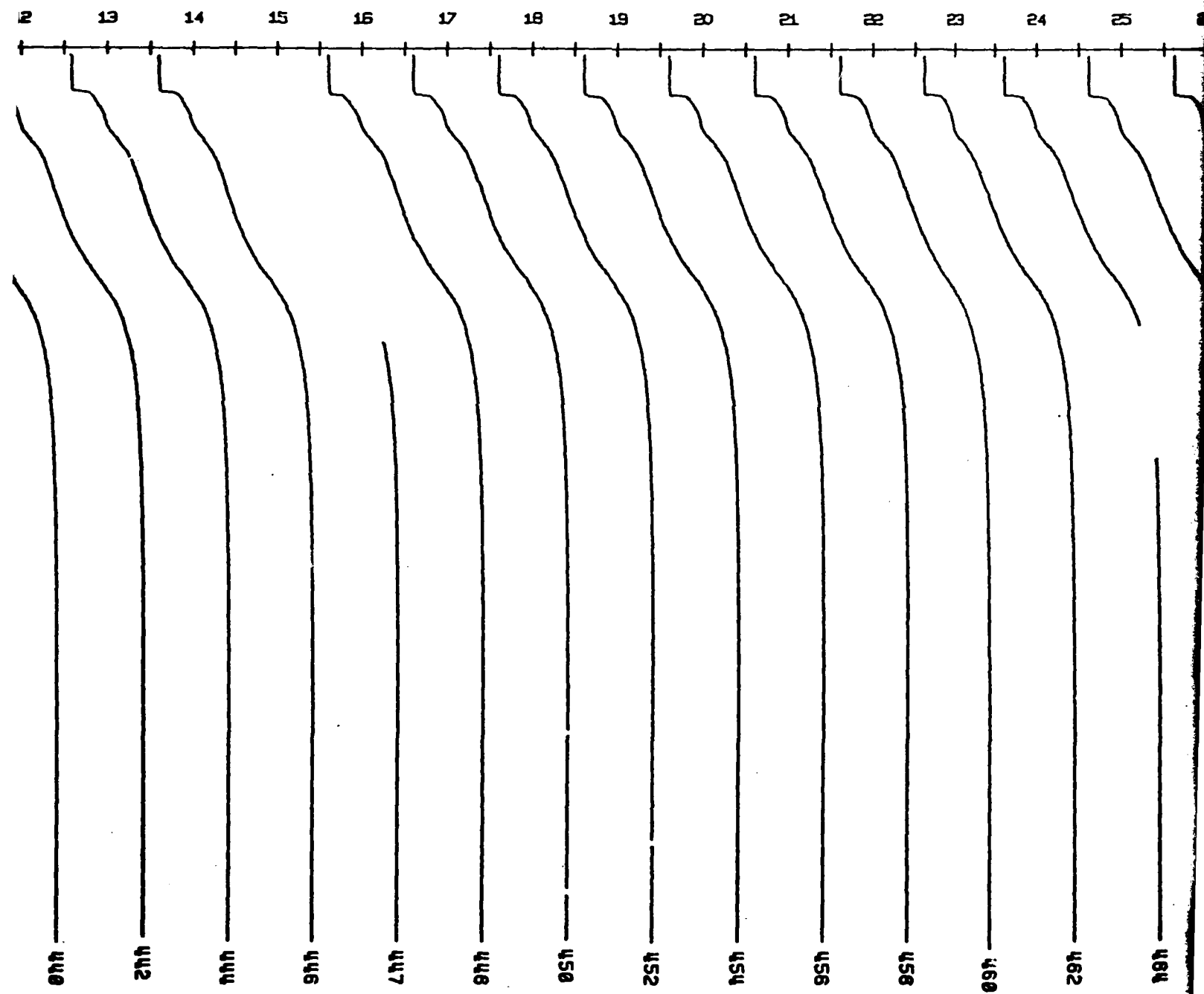


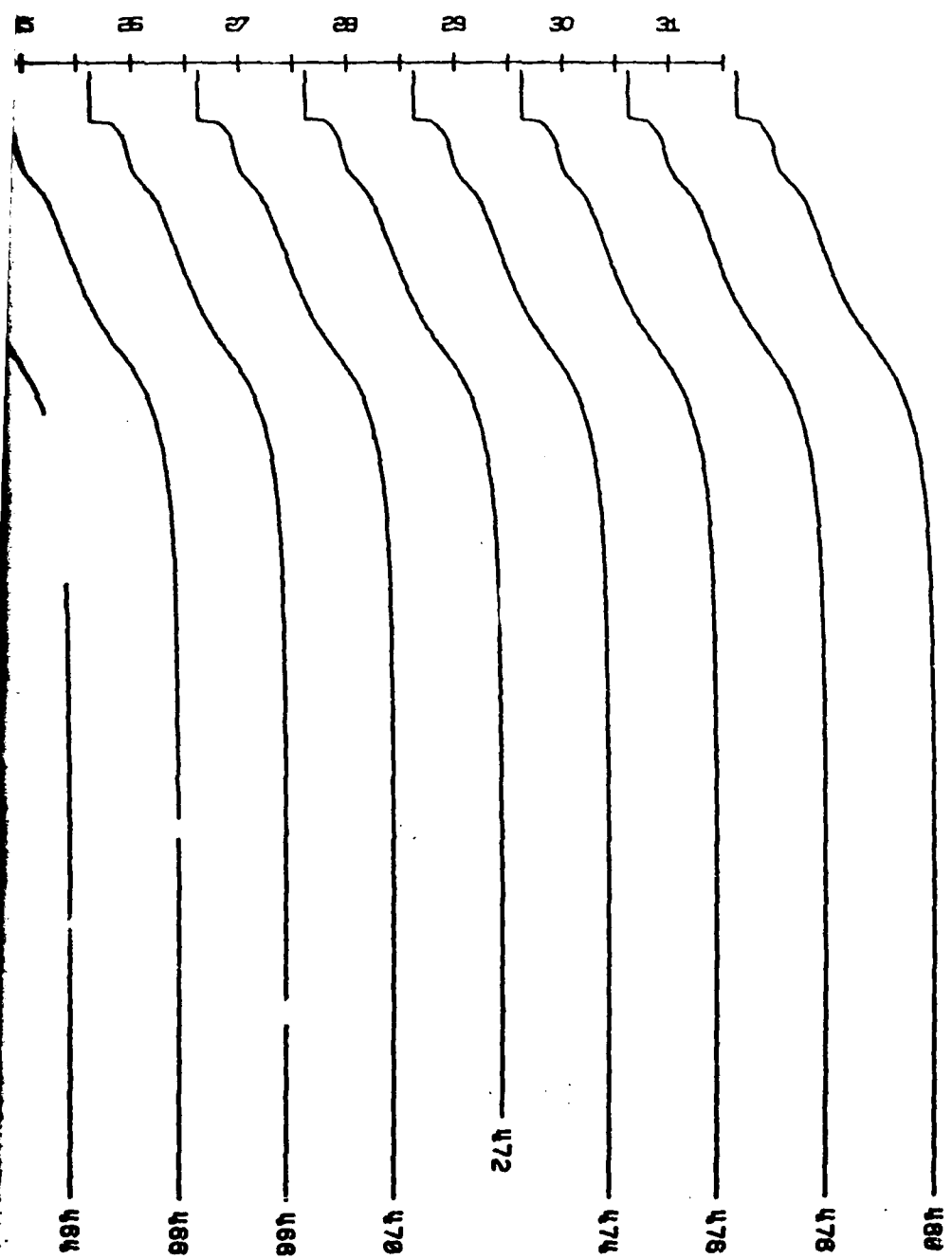


- NO MORE THAN ONE PROFILE PER HALF DAY (AM/PM GMT) IS PLOTTED
- EACH PROFILE PLOTTED WITH RESPECT TO LEFT DIVISION MARK (30.0 PPT)
- SALINITY SCALE SHIFTS RIGHT 1 DIVISION ( 1.0 PPT) PER HALF DAY

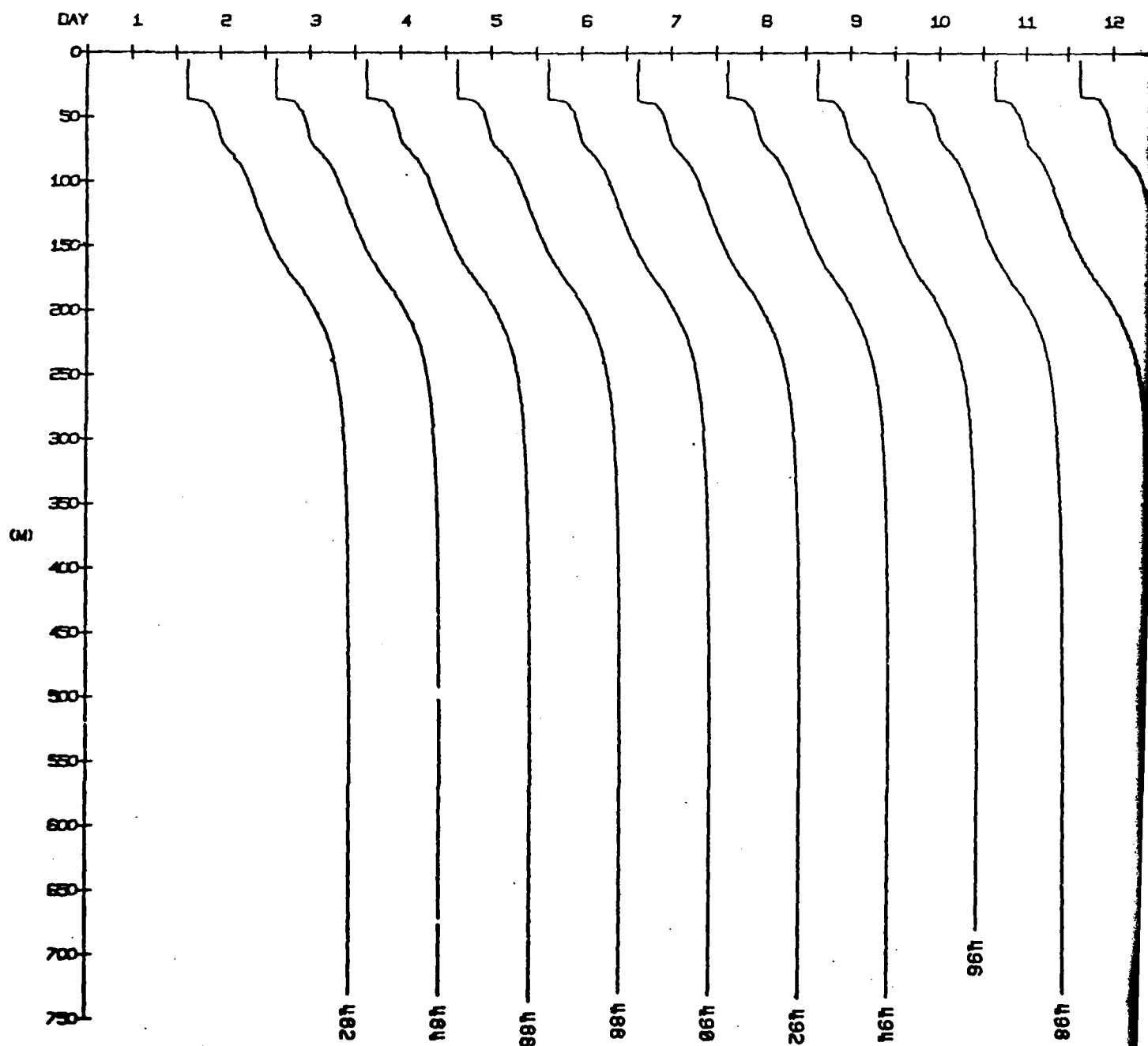


SALINITY PROFILES AT CAMP BLUE FOX  
MAR 1, 1976 TO MAR 31, 1976



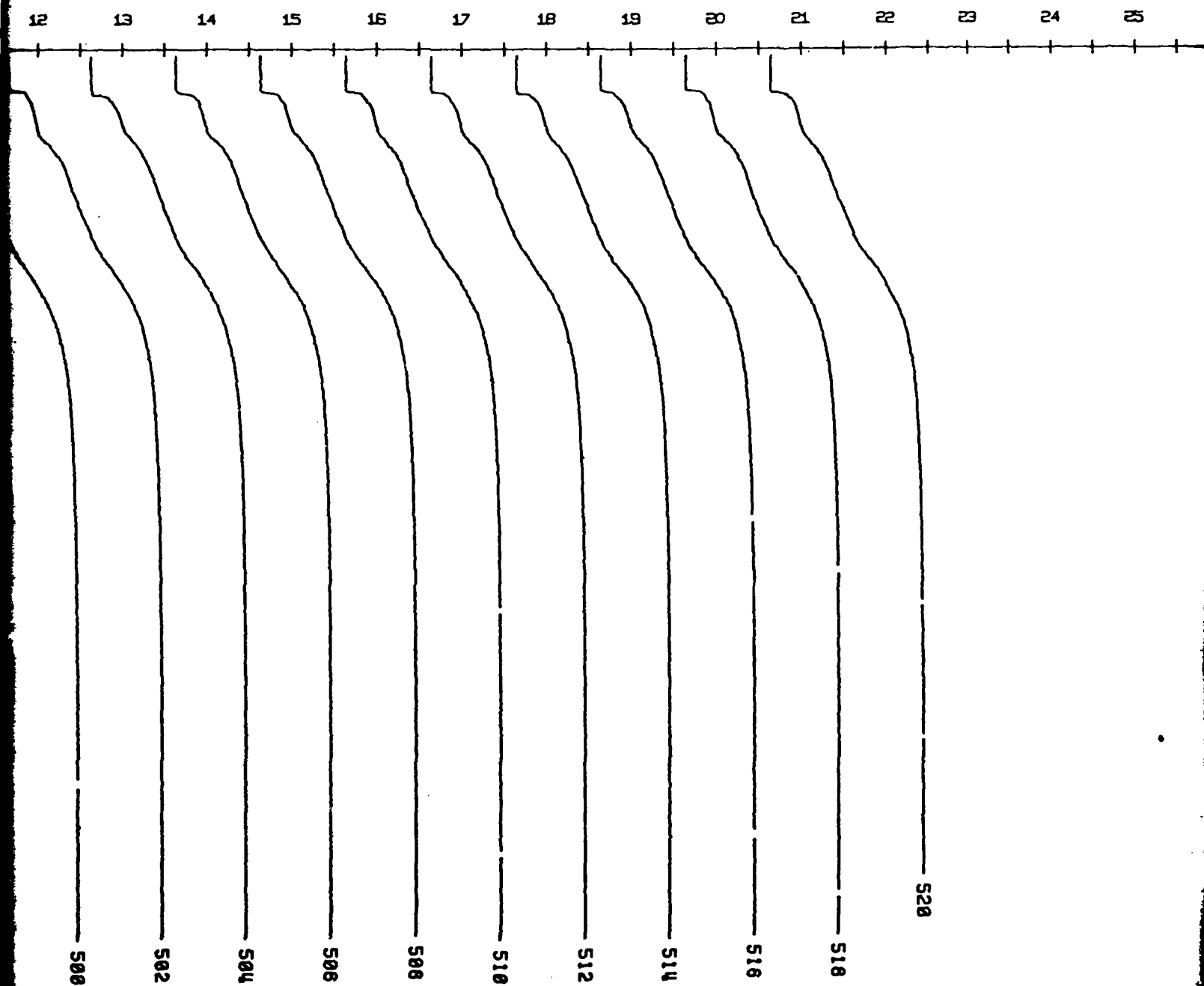


- NO MORE THAN ONE PROFILE PER HALF DAY (AM/PM GMT) IS PLOTTED
- EACH PROFILE PLOTTED WITH RESPECT TO LEFT DIVISION MARK (30.0 PPT)
- SALINITY SCALE SHIFTS RIGHT 1 DIVISION ( 1.0 PPT) PER HALF DAY



# SALINITY PROFILES AT CAMP BLUE FOX

APR 1, 1976 TO APR 30, 1976



25 27 28 29 30



## RESULTS

### Section 2 (STD Data)

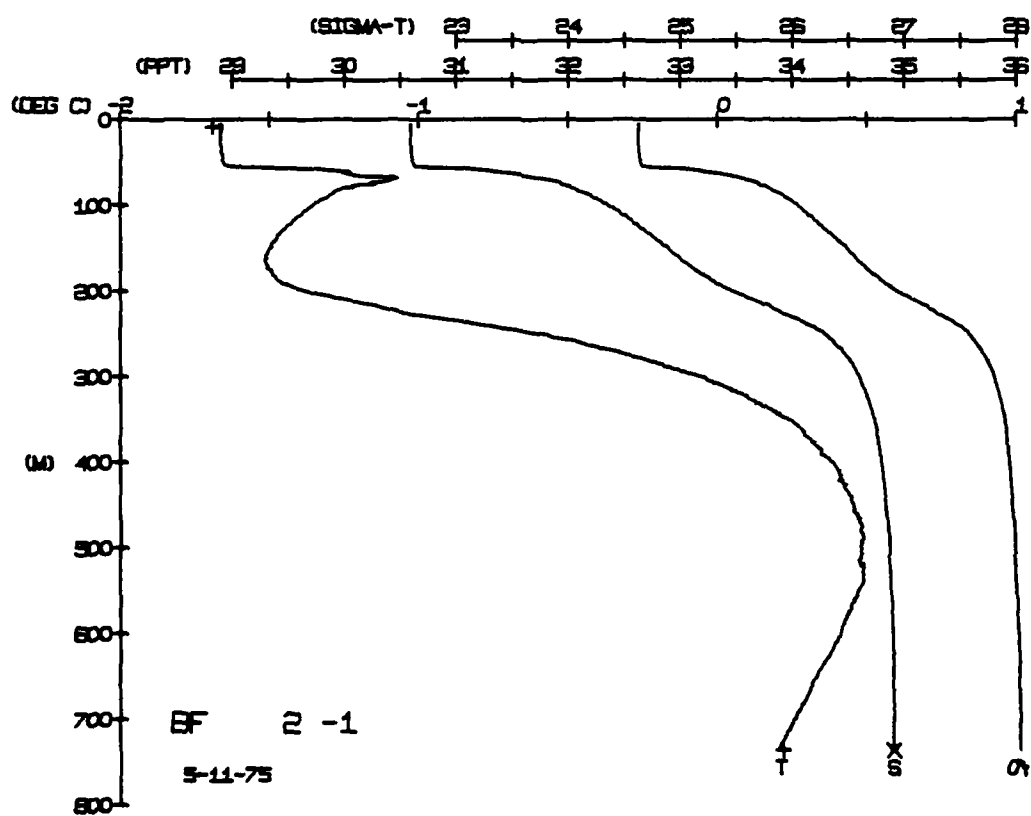
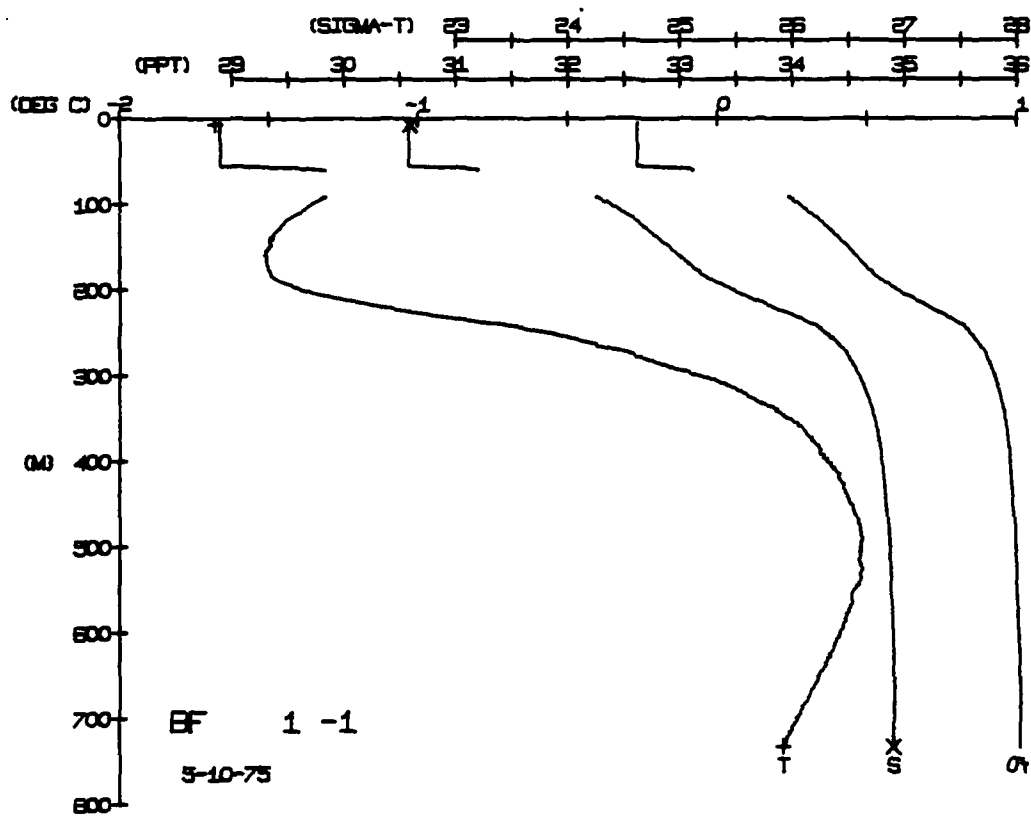
This section provides all of the STD data taken at Camp Blue Fox during the 1975-1976 Arctic Ice Dynamics Joint Experiment. Numerical listings and corresponding plots are given.

BLUE FOX STATION 2(1) CTD 11/MAY/1975 2053 GMT CODE = 1  
LAT = 77.2216N LNG = 143.3874W ITER = 2. LGRN = 3.  
AIR TEMP = -9.2 BAROM = 1033.9 WIND = 307.4 SPEED = 53.8

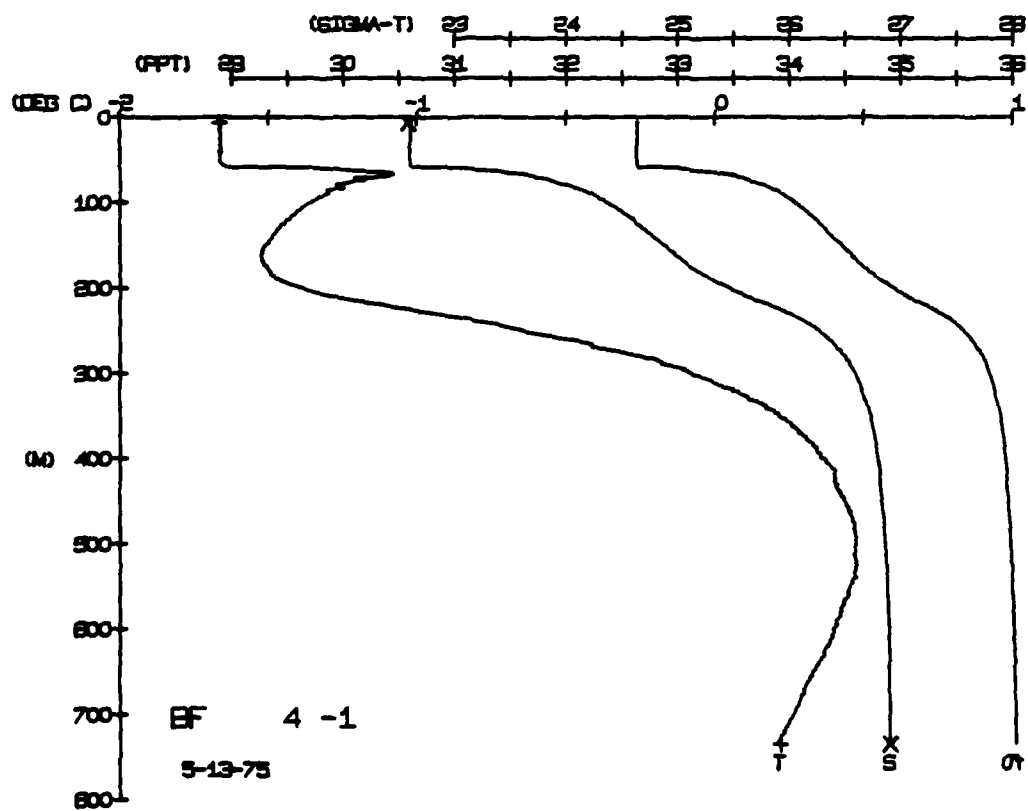
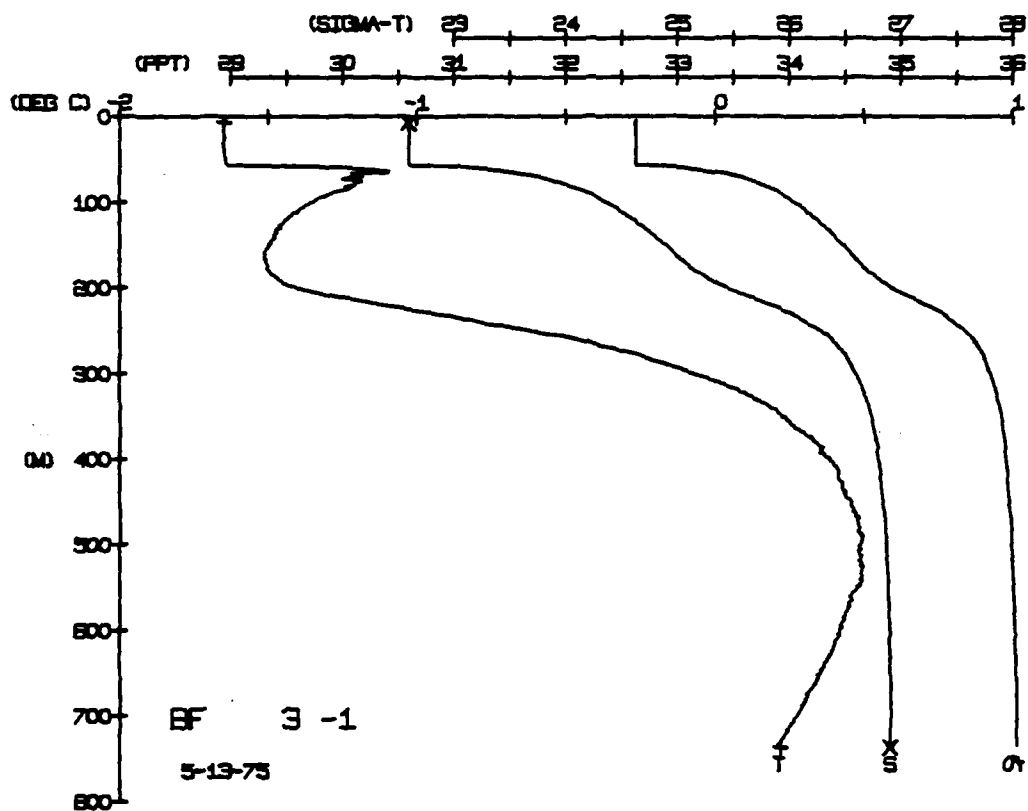
[illegible]

**SALIN**  
**34.91**









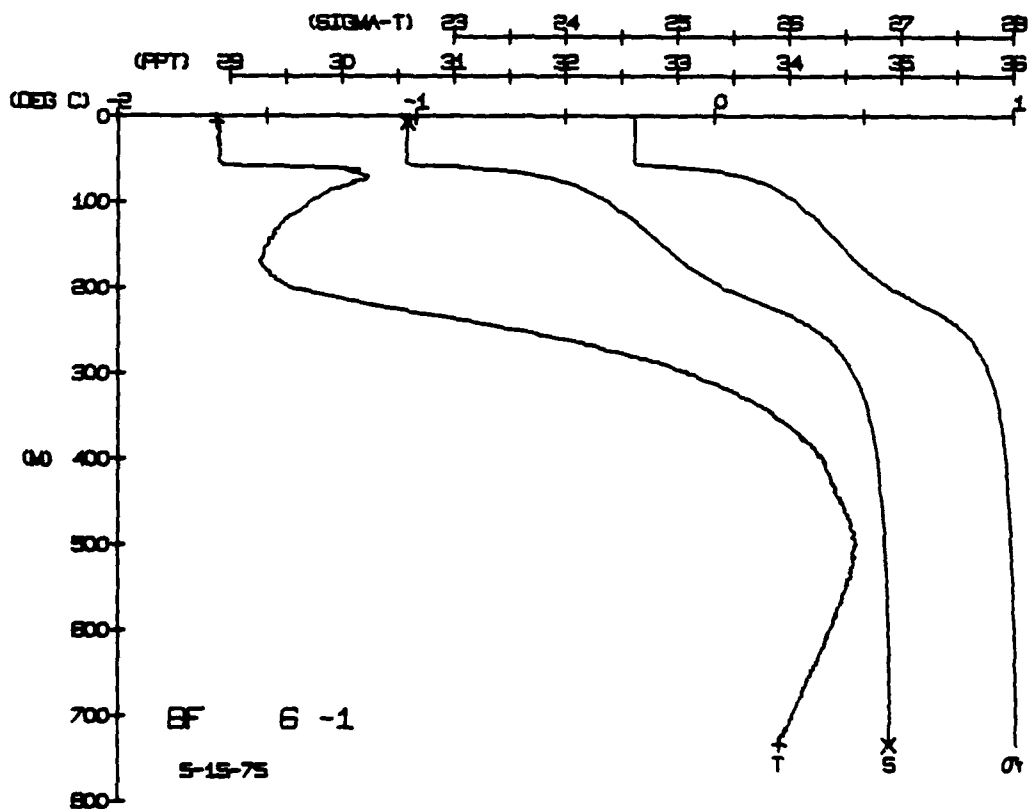
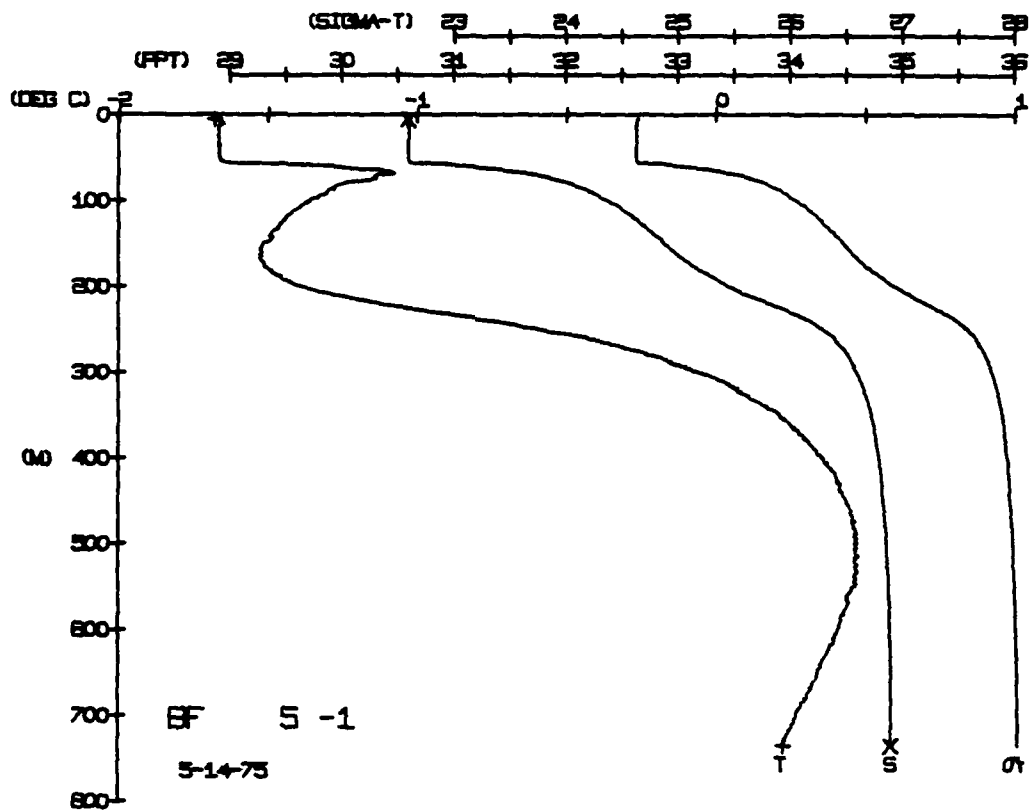
BLUE FOX STATION 6(1) CTD 15/MAY/1975 1806 GMT CODE = 3  
 9527N LNG = 143.0570W ITER = 0 LGER = 0  
 AIR TEMP = -9.2 BARUM = 1015.0 WIND = 333.6 SPEED = 67.3

DEPTH	TEMP	PTSP	SALIN	SIG T	SPVUL	DYNHT	SOUND
0.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
1.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
1.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
2.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
2.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
3.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
3.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
4.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
4.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
5.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
5.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
6.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
6.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
7.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
7.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
8.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
8.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
9.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
9.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
10.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
10.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
11.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
11.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
12.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
12.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
13.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
13.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
14.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
14.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
15.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
15.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
16.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
16.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
17.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
17.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
18.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
18.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
19.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
19.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
20.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
20.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
21.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
21.5	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
22.0	66.6	66.6	66.6	66.6	66.6	0.0000	0.0000
22.5	66.6	6					

	DEPTH	TEMP.	SALIN.
BTU NUM = 1	6.0	-1.67	30.59
BTU NUM = 2	734.5	0.23	34.90

[illegible]

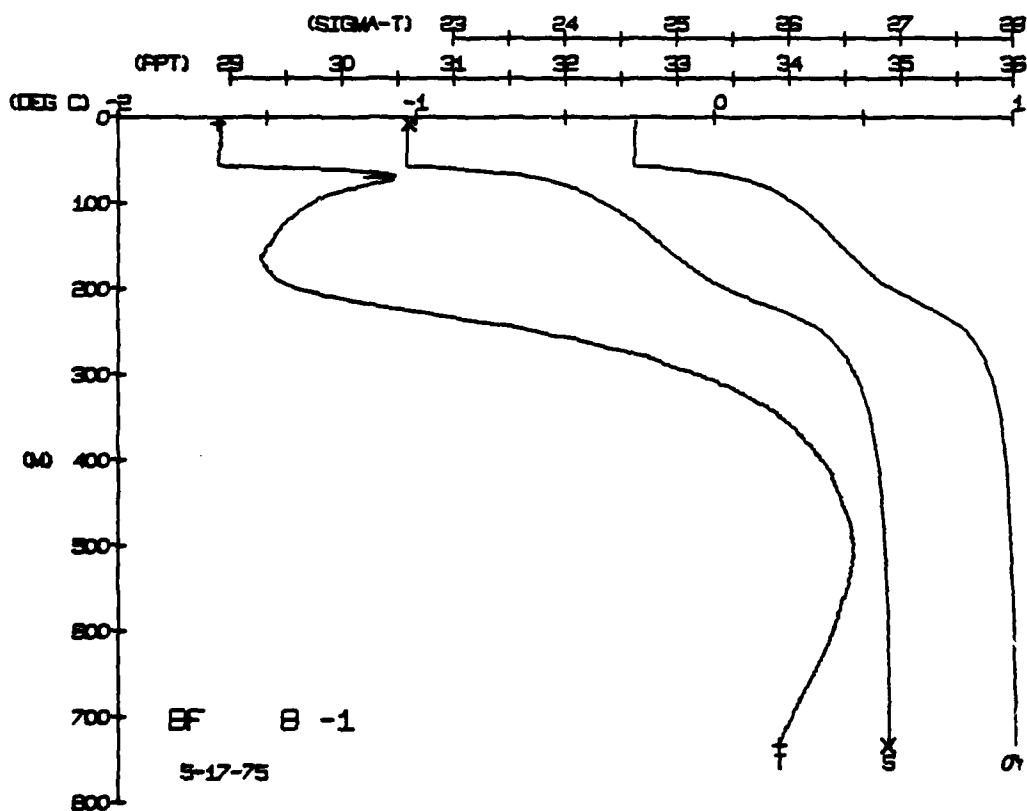
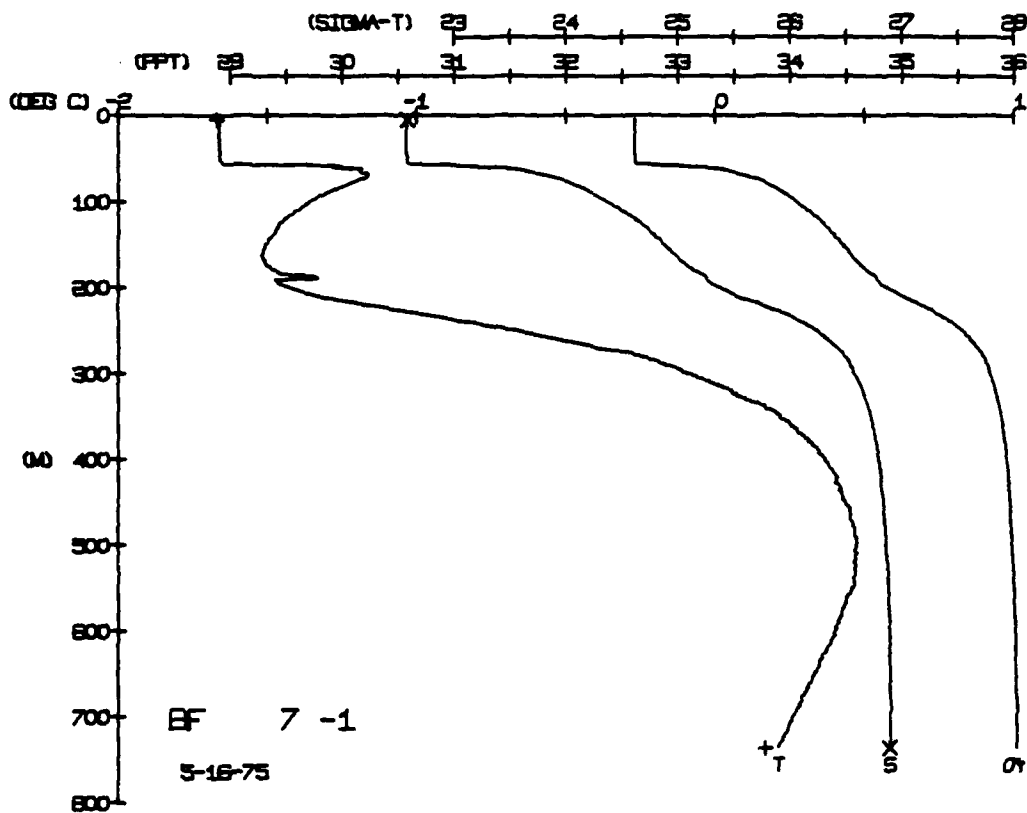
	DEPTH	TEMP.	SALIN.
BOT NUM = 1	7.0	-1.67	30.59
HOT NUM = 2	732.3	0.22	34.90



BLUE FOX STATION 8(1) CTD 17/MAY/1975 1803 GMT CUDR = 1  
LAT = 76.9850N LNG = 143.2460W LTER = 0, LGRR = 0.  
AIR TEMP = -12.2 BAROM = 1013.3 WIND = 83.9 SPEED = 62.1

[illegible]

DEPTH	TEMP.	SALIN.
BOT NUM = 1	-1.66	30.60
HOT NUM = 2	0.22	34.90



BLUE FOX STATION 9(1) CTD 18/MAY/1975 1800 GMT CUDEF = 1  
LAT = 76.9932N LNG = 143.5582W LTRK = 1 LGRR = 2  
AIR TEMP = -12.2 HADRM = 1014.5 WIND = 83.6 SPEED = 62.1

BLUE FOX STATION 10(1) CTD 14/MAY/1975 1800 GMT CODE = 3  
LAT = 76.9488N LNC = 143.7579W ITER = 5 LGER = 10  
AIR TEMP = -12.3 BAROM = 1019.1 WIND = 352.5 SPEED = 50.2

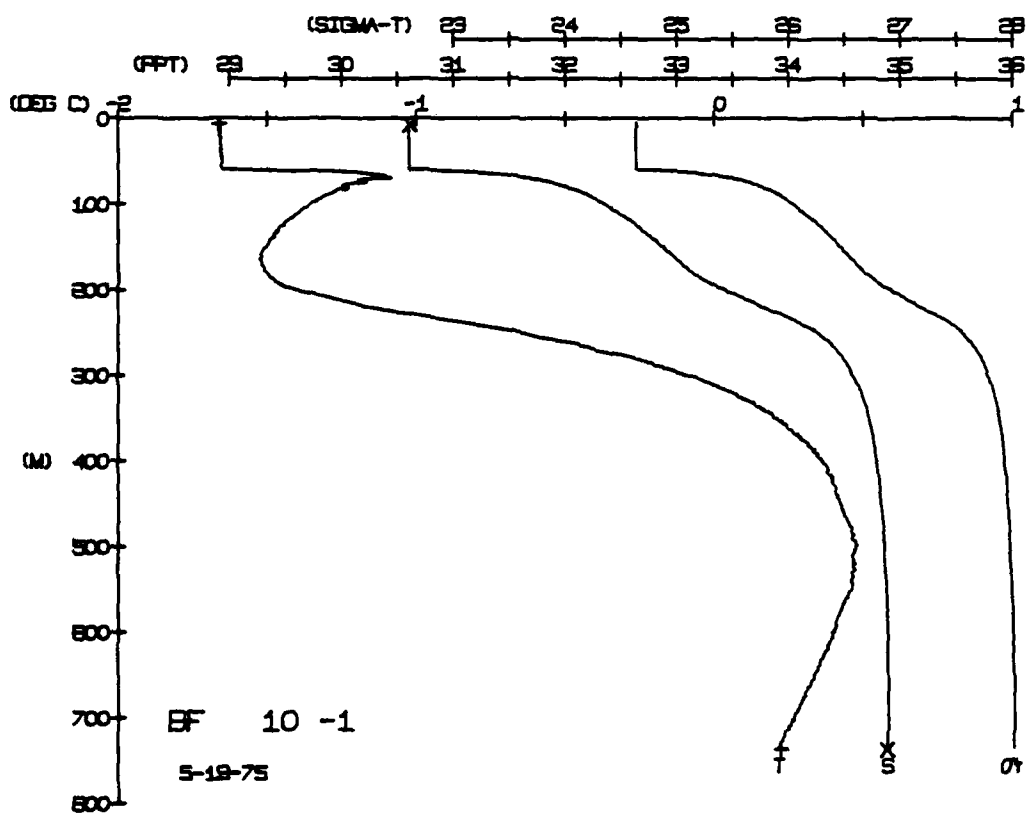
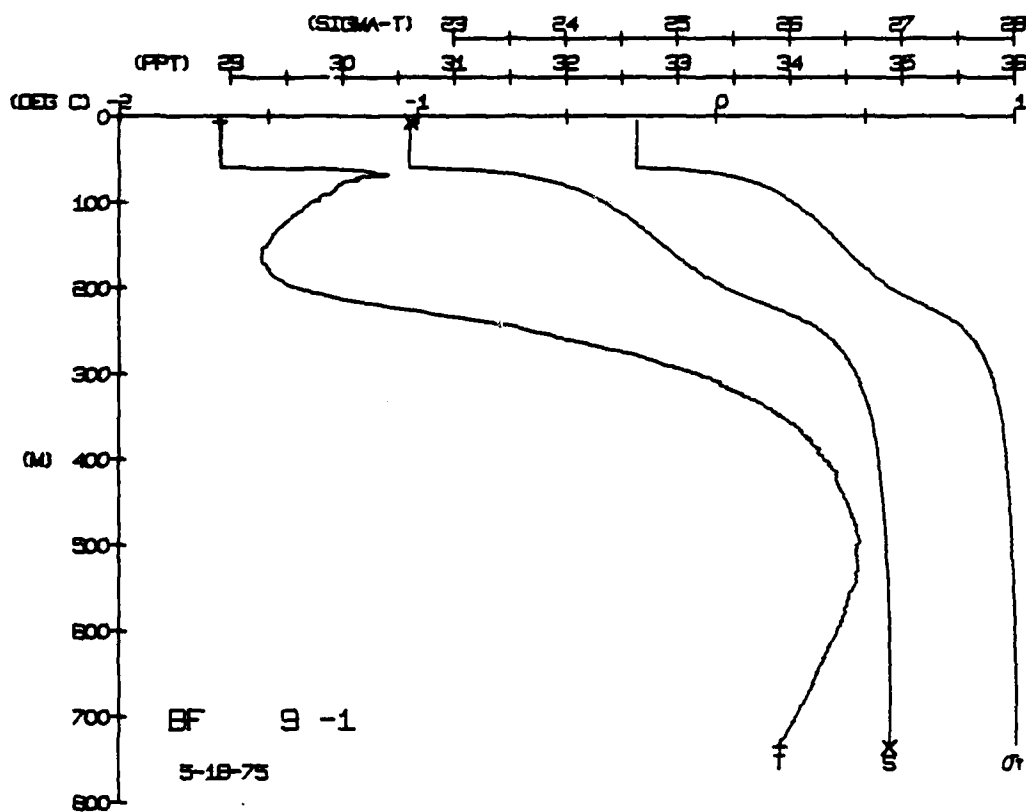
ULPH	IFMP	PTMP	SALIN	SIG T	SPVUL	DYNHT	SOUND
0.3	66	66	61	64	21	00	35
0.5	66	66	61	66	11	00	35
1.0	66	66	61	66	31	00	35
1.5	66	66	61	66	31	00	35
2.0	66	66	61	66	31	00	35
2.5	66	66	61	66	31	00	35
3.0	66	66	61	66	31	00	35
3.5	66	66	61	66	31	00	35
4.0	66	66	61	66	31	00	35
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6.5	66	66	61	66	31	00	35
7.0	66	66	61	66	31	00	35
7.5	66	66	61	66	31	00	35
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9.0	66	66	61	66	31	00	35
9.5	66	66	61	66	31	00	35
10.0	66	66	61	66	31	00	35
10.5	66	66	61	66	31	00	35
11.0	66	66	61	66	31	00	35
11.5	66	66	61	66	31	00	35
12.0	66	66	61	66	31	00	35
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16.5	66	66	61	66	31	00	35
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17.5	66	66	61	66	31	00	35
18.0	66	66	61	66	31	00	35
18.5	66	66	61	66	31	00	35
19.0	66	66	61	66	31	00	35
19.5	66	66	61	66	31	00	35
20.0	66	66	61	66	31	00	35
20.5	66	66	61	66	31	00	35
21.0	66	66	61	66	31	00	35
21.5	66	66	61	66	31	00	35
22.0	66	66	61	66	31	00	35
22.5	66	66	61	66	31	00	35
23.0	66	66	61	66	31	00	35
23.5	66	66	61	66	31	00	35
24.0	66	66	61	66	31	00	35
24.5	66	66	61	66	31	00	35
25.0	66	66	61	66	31	00	35
25.5	66	66	61	66	31	00	35
26.0	66	66	61	66	31	00	35
26.5	66	66	61	66	31	00	35
27.0	66	66	61	66	31	00	35
27.5							

HUT NUM = 1	6.5	-1.66	30.61
HUT NUM = 2	734.6	0.22	34.90

REF TH	TEMP.	SALIN
HOT NUM = 1	-1.66	30.61
COLD NUM = 2	0.23	34.90

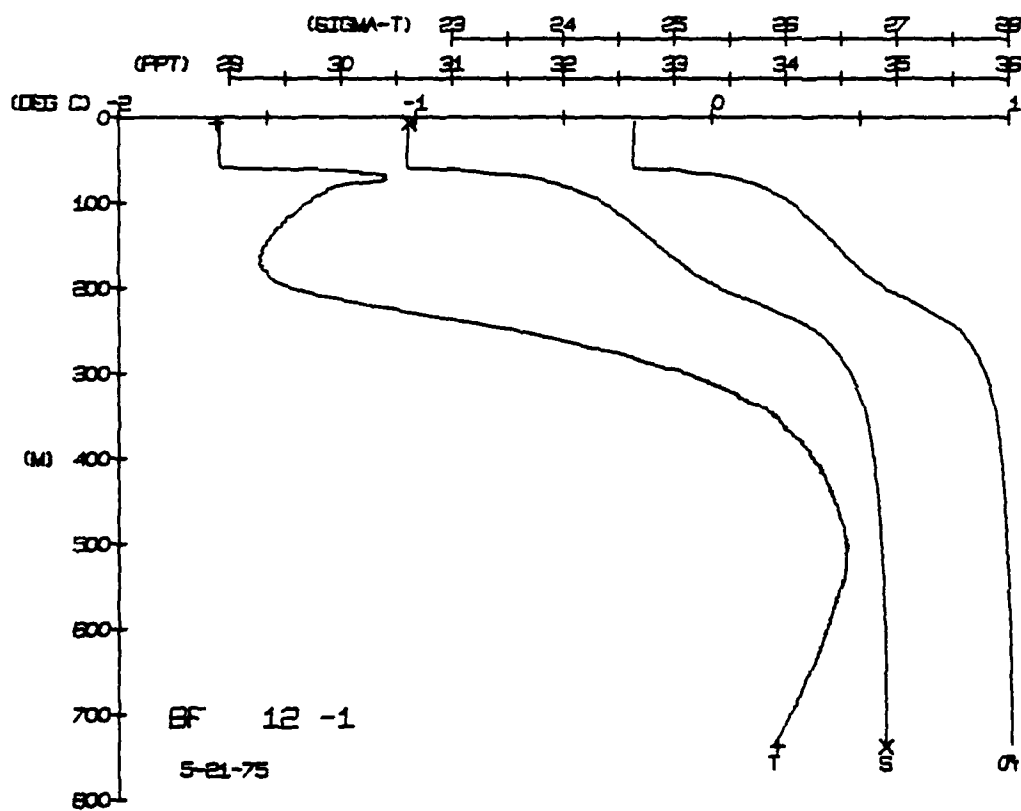
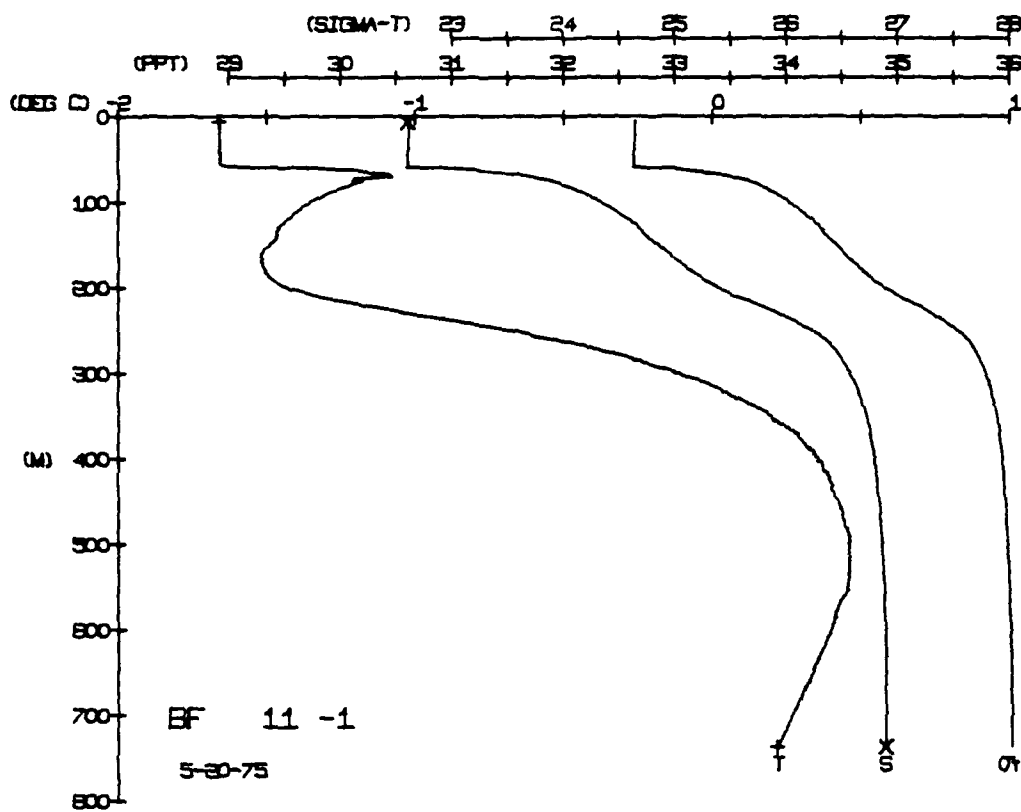
SAI, IN  
30-61  
34-90





BLUE FOX STATION 12(1) CTD 21/MAY/1975 1800 GMT CODE = 1  
LAT = 76.9174N LNG = 143.6774W LTER = 1, LGRR = 1,  
AIR TEMP = -10.2 BARUM = 1021.1 WIND = 176.0 SPEED = 47.9

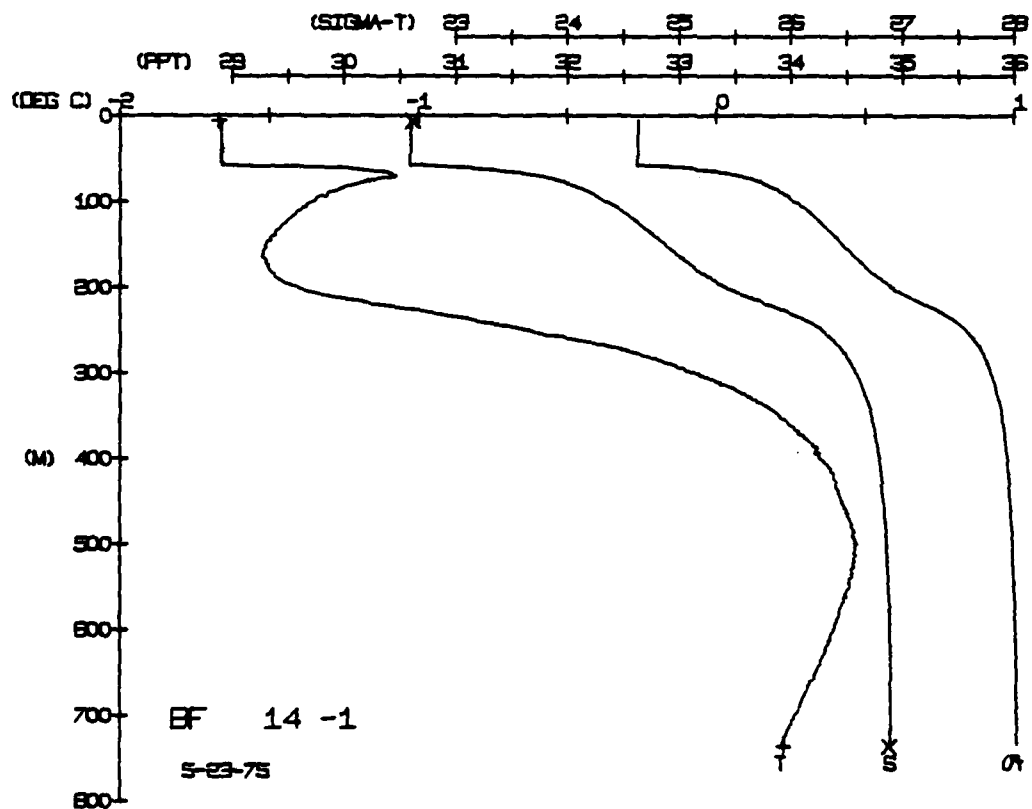
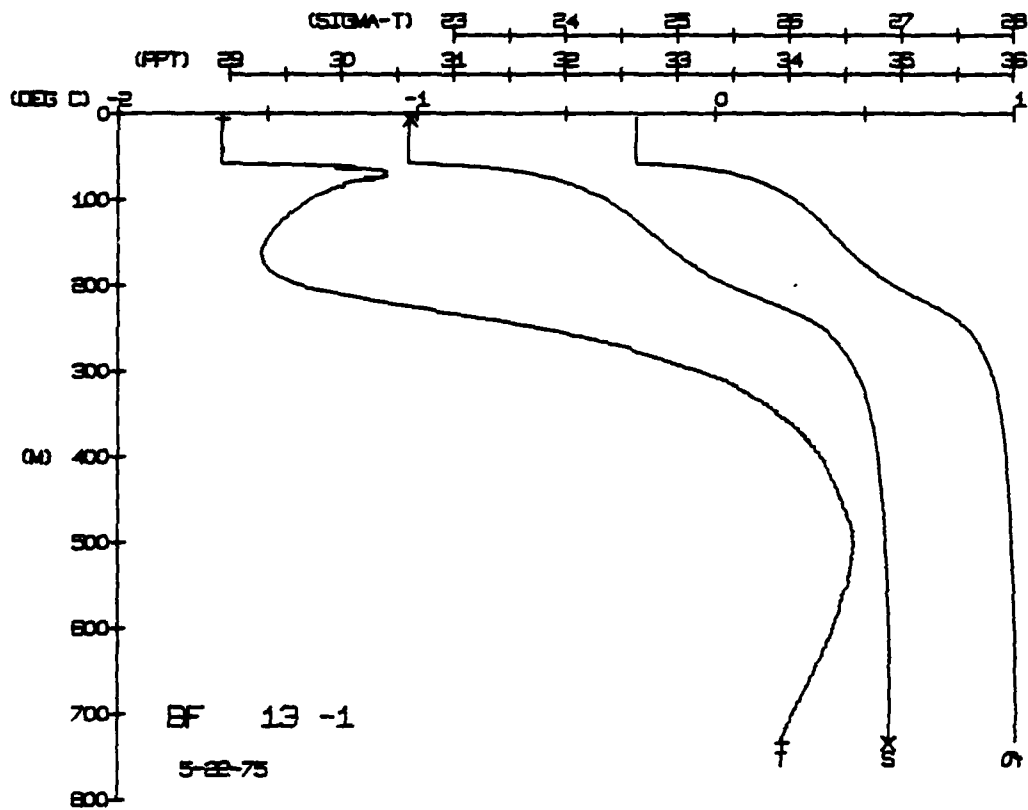
[illegible]



BLUE FOX STATION 14(1) CTD 23/MAY/1975 180R GMT CONF. = 1  
 = 76.9562N LNG = 143.3127W I.TER = 60. LGFR = 95.  
 AIR TEMP = -10.4 HARUM = 1021.5 WIND = 261.6 SPEED = 34.7

DEPTH	TEMP	PTEMP	SALIN	SIG T	SPVUL	DYNHT	SOUND
00	55	55	00	63	7	00	34
05	55	55	00	63	1	00	35
10	55	55	00	63	1	00	35
15	55	55	00	63	1	00	35
20	55	55	00	63	1	00	35
25	55	55	00	63	1	00	35
30	55	55	00	63	1	00	35
35	55	55	00	63	1	00	35
40	55	55	00	63	1	00	35
45	55	55	00	63	1	00	35
50	55	55	00	63	1	00	35
55	55	55	00	63	1	00	35
60	55	55	00	63	1	00	35
65	55	55	00	63	1	00	35
70	55	55	00	63	1	00	35
75	55	55	00	63	1	00	35
80	55	55	00	63	1	00	35
85	55	55	00	63	1	00	35
90	55	55	00	63	1	00	35
95	55	55	00	63	1	00	35
100	55	55	00	63	1	00	35
105	55	55	00	63	1	00	35
110	55	55	00	63	1	00	35
115	55	55	00	63	1	00	35
120	55	55	00	63	1	00	35
125	55	55	00	63	1	00	35
130	55	55	00	63	1	00	35
135	55	55	00	63	1	00	35
140	55	55	00	63	1	00	35
145	55	55	00	63	1	00	35
150	55	55	00	63	1	00	35
155	55	55	00	63	1	00	35
160	55	55	00	63	1	00	35
165	55	55	00	63	1	00	35
170	55	55	00	63	1	00	35
175	55	55	00	63	1	00	35
180	55	55	00	63	1	00	35
185	55	55	00	63	1	00	35
190	55	55	00	63	1	00	35
195	55	55	00	63	1	00	35
200	55	55	00	63	1	00	35
205	55	55	00	63	1	00	35
210	55	55	00	63	1	00	35
215	55	55	00	63	1	00	35
220	55	55	00	63	1	00	35
225	55	55	00	63	1	00	35
230	55	55	00	63	1	00	35
235	55	55	00	63	1	00	35
240	55	55	00	63	1	00	35
245	55	55	00	63	1	00	35
250	55	55	00	63	1	00	35
255	55	55	00	63	1	00	35
260	55	55	00	63	1	00	35
265	55	55	00	63	1	00	35
270	55	55	00	63	1	00	35
275	55	55	00	63	1	00	35
280	55	55	00	63	1	00	35
285	55	55	00	63	1	00	35
290	55	55	00	63	1	00	35
295	55	55	00	63	1	00	35
300	55	55	00	63	1	00	35
305	55	55	00	63	1	00	35
310	55	55	00	63	1	00	35
315	55	55	00	63	1	00	35
320	55	55	00	63	1	00	35
325							

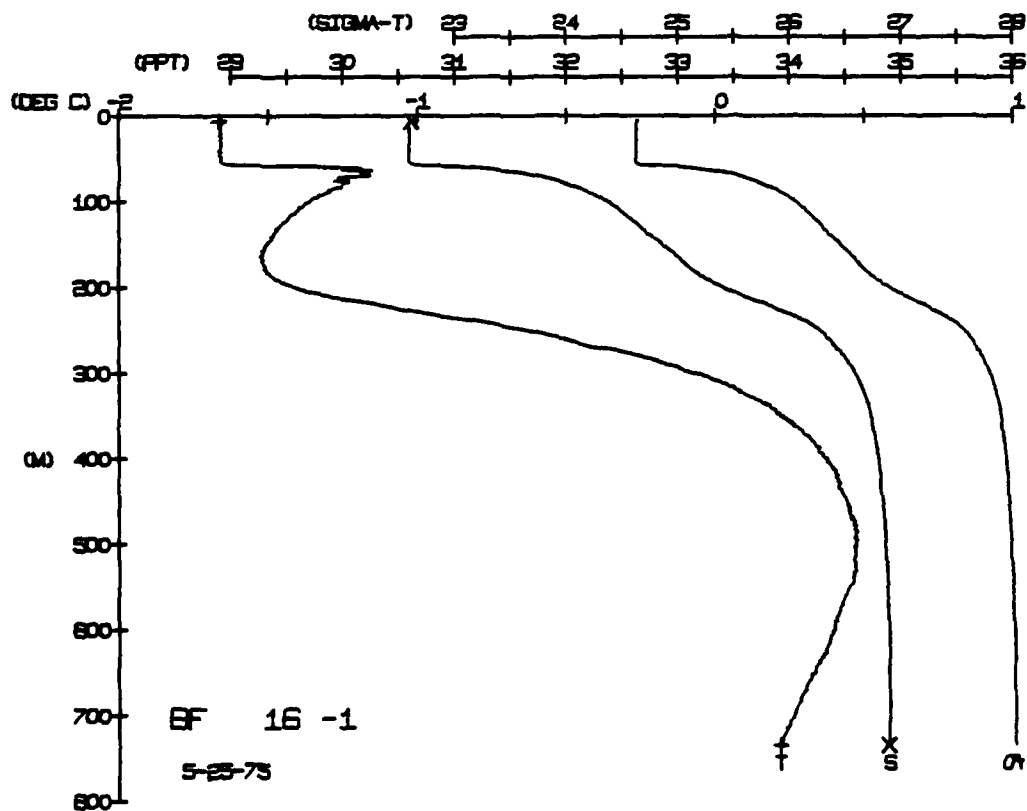
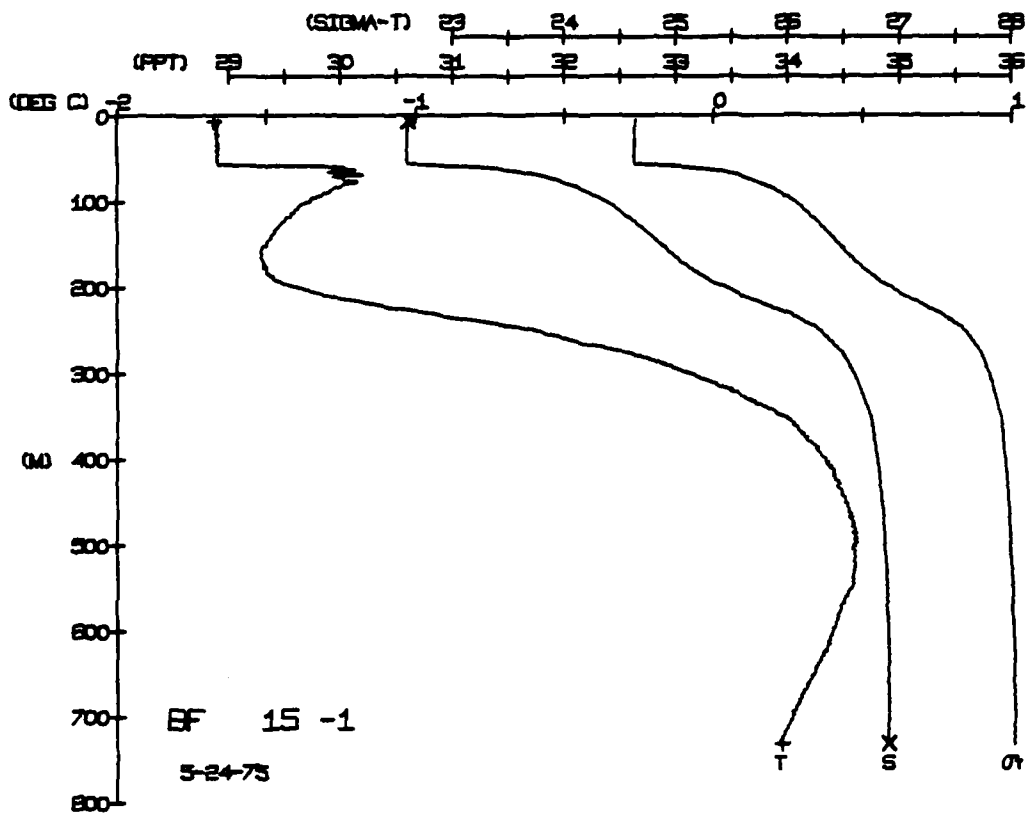
[illegible]



BLUE FOX STATION 16(1) CTD 25/MAY/1975 1800 GMT CODE = 3  
LAT = 76.9548N LNG = 143.2043W LTER = 1 LGER = 1  
AIR TEMP = -10.3 BAROM = 1029.8 WIND = 140.5 SPEED = 37.6

[illegible]

DEPTH	TEMP	PTEMP	SALIN	TEMP.	SALIN	SOUND
00	66	66	00	4	00	34
05	66	66	00	1	00	33
10	66	66	00	3	00	33
15	66	66	00	3	00	33
20	66	66	00	3	00	33
25	66	66	00	3	00	33
30	66	66	00	3	00	33
35	66	66	00	3	00	33
40	66	66	00	3	00	33
45	66	66	00	3	00	33
50	66	66	00	3	00	33
55	66	66	00	3	00	33
60	66	66	00	3	00	33
65	66	66	00	3	00	33
70	66	66	00	3	00	33
75	66	66	00	3	00	33
80	66	66	00	3	00	33
85	66	66	00	3	00	33
90	66	66	00	3	00	33
95	66	66	00	3	00	33
100	66	66	00	3	00	33
105	66	66	00	3	00	33
110	66	66	00	3	00	33
115	66	66	00	3	00	33
120	66	66	00	3	00	33
125	66	66	00	3	00	33
130	66	66	00	3	00	33
135	66	66	00	3	00	33
140	66	66	00	3	00	33
145	66	66	00	3	00	33
150	66	66	00	3	00	33
155	66	66	00	3	00	33
160	66	66	00	3	00	33
165	66	66	00	3	00	33
170	66	66	00	3	00	33
175	66	66	00	3	00	33
180	66	66	00	3	00	33
185	66	66	00	3	00	33
190	66	66	00	3	00	33
195	66	66	00	3	00	33
200	66	66	00	3	00	33
205	66	66	00	3	00	33
210	66	66	00	3	00	33
215	66	66	00	3	00	33
220	66	66	00	3	00	33
225	66	66	00	3	00	33
230	66	66	00	3	00	33
235	66	66	00	3	00	33
240	66	66	00	3	00	33
245	66	66	00	3	00	33
250	66	66	00	3	00	33
255	66	66	00	3	00	33
260	66	66	00	3	00	33
265	66	66	00	3	00	33
270	66	66	00	3	00	33
275	66	66	00	3	00	33
280	66	66	00	3	00	33
285	66	66	00	3	00	33
290	66	66	00	3	00	33
295	66	66	00	3	00	33
300	66	66	00	3	00	33
305	66	66	00	3	00	33
310	66	66	00	3	00	33
315	66	66	00	3	00	33
320	66	66	00	3	00	33
325	66	66	00	3	00	33
330	66	66	00	3	00	33
335	66	66	00	3	00	33
340	66	66	00	3	00	33
345	66	66	00	3	00	33
350	66	66	00	3	00	33
355	66	66	00	3	00	33
360	66	66	00	3	00	33
365	66	66	00	3		

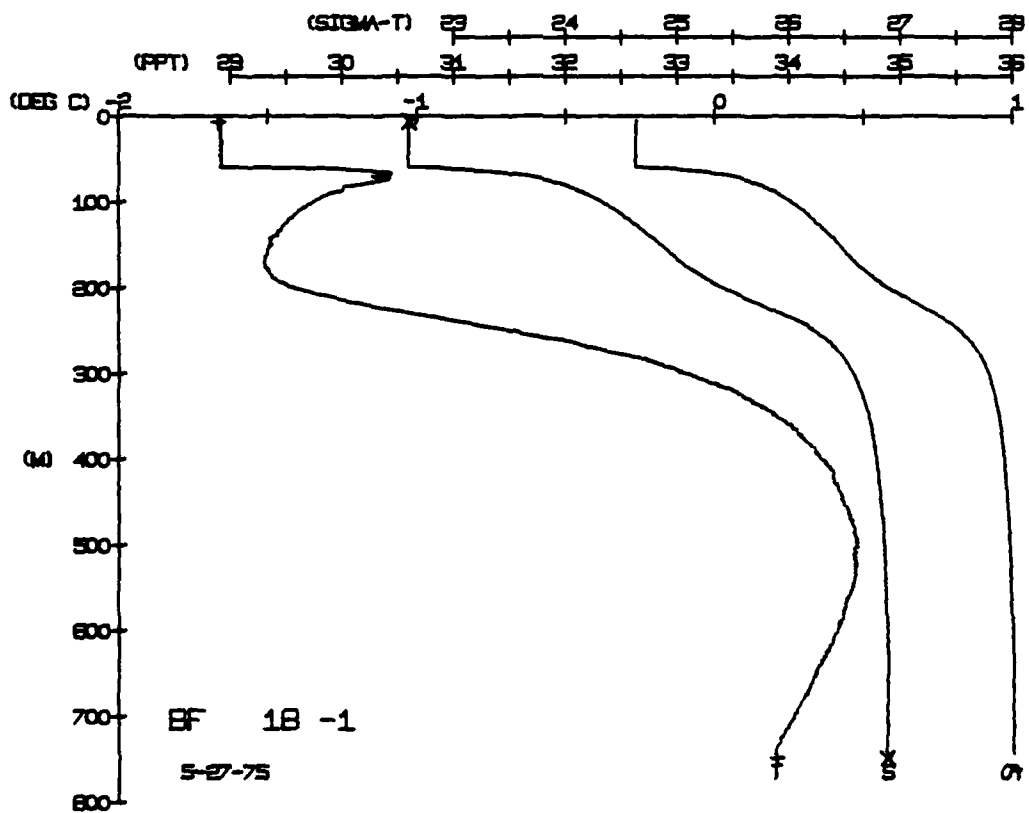
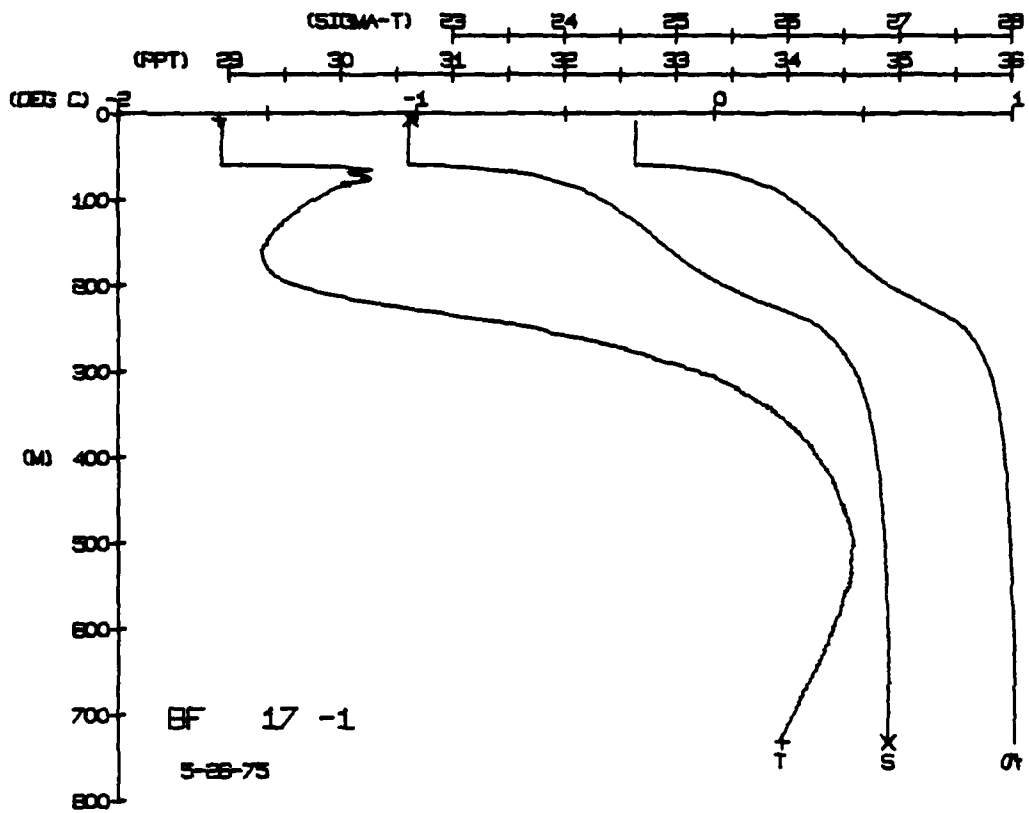


BLUE FOX STATION 18(1) CTD 27/MAY/1975 1805 GMT CODE = 3  
LAT = 76.9702N LNG = 143.7603W LTER = 2. LGR = 3.  
AIR TEMP = -11.9 BARUM = 1029.2 WIND = 84.5 SPEED = 64.9

[illegible]

BOAT NUM =	DEPTH	TEMP.	SALIN.
1	6.3	-1.66	30.60
2	747.2	0.21	34.89





BLUE FOX STATION 19(1) CTD 28/MAY/1975 1800 GMT CODE = 3  
LAT = 77.0017N LMG = 144.1354W LTER = 1 LGER = 2  
AIR TEMP = -11.9 BARUM = 1030.9 WIND = 04.5 SPEED = 64.9

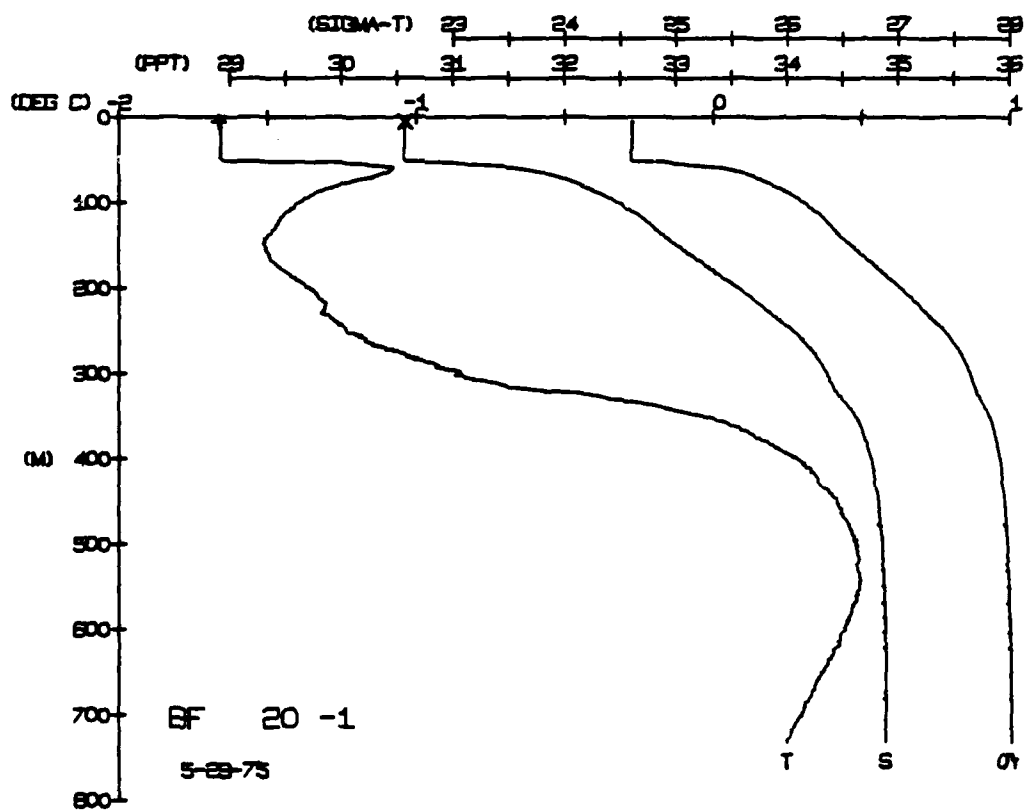
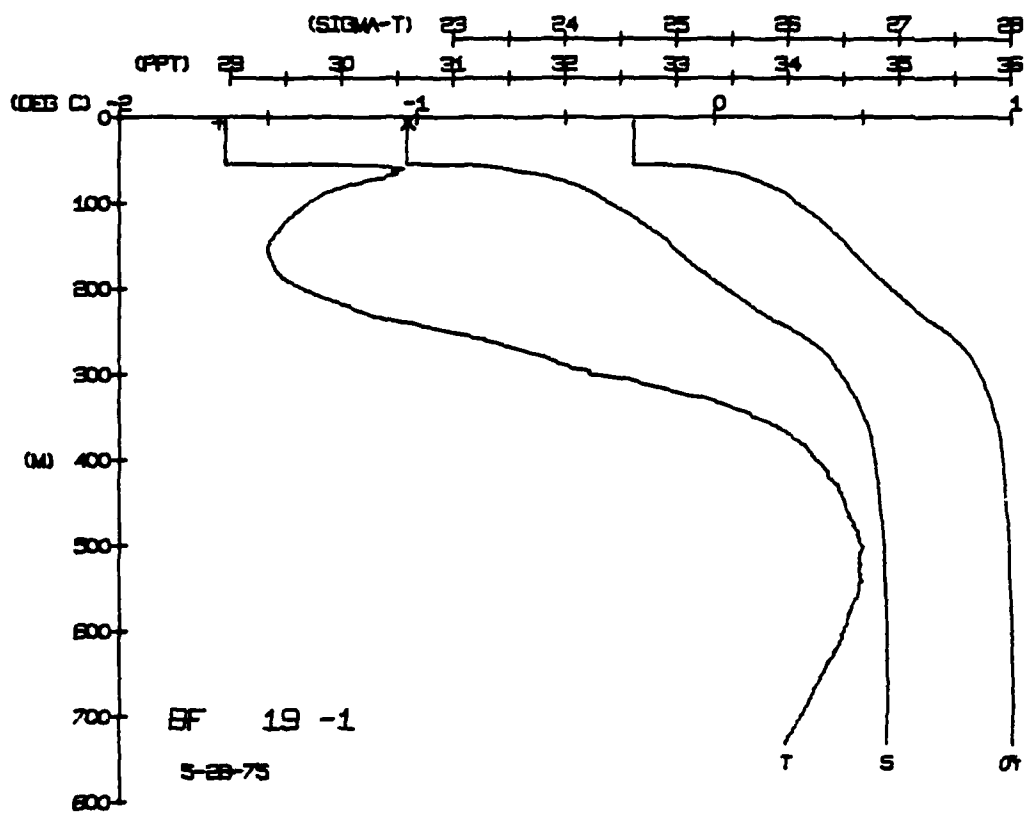
DEPTH	TEMP	PTEMP	SALIN	SIG T	SPVUL	DYNHT	SOUND
0	64	64	33	1	10	0	3
1	64	64	33	1	10	0	3
2	64	64	33	1	10	0	3
3	64	64	33	1	10	0	3
4	64	64	33	1	10	0	3
5	64	64	33	1	10	0	3
6	64	64	33	1	10	0	3
7	64	64	33	1	10	0	3
8	64	64	33	1	10	0	3
9	64	64	33	1	10	0	3
10	64	64	33	1	10	0	3
11	64	64	33	1	10	0	3
12	64	64	33	1	10	0	3
13	64	64	33	1	10	0	3
14	64	64	33	1	10	0	3
15	64	64	33	1	10	0	3
16	64	64	33	1	10	0	3
17	64	64	33	1	10	0	3
18	64	64	33	1	10	0	3
19	64	64	33	1	10	0	3
20	64	64	33	1	10	0	3
21	64	64	33	1	10	0	3
22	64	64	33	1	10	0	3
23	64	64	33	1	10	0	3
24	64	64	33	1	10	0	3
25	64	64	33	1	10	0	3
26	64	64	33	1	10	0	3
27	64	64	33	1	10	0	3
28	64	64	33	1	10	0	3
29	64	64	33	1	10	0	3
30	64	64	33	1	10	0	3
31	64	64	33	1	10	0	3
32	64	64	33	1	10	0	3
33	64	64	33	1	10	0	3
34	64	64	33	1	10	0	3
35	64	64	33	1	10	0	3
36	64	64	33	1	10	0	3
37	64	64	33	1	10	0	3
38	64	64	33	1	10	0	3
39	64	64	33	1	10	0	3
40	64	64	33	1	10	0	3
41	64	64	33	1	10	0	3
42	64	64	33	1	10	0	3
43	64	64	33	1	10	0	3
44	64	64	33	1	10	0	3
45	64	64	33	1	10	0	3
46	64	64	33	1	10	0	3
47	64	64	33	1	10	0	3
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54	64	64	33	1	10	0	3
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59	64	64	33	1	10	0	3
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63	64	64	33	1	10	0	3
64	64	64	33	1	10	0	3
65	64	64	33	1	10	0	3
66	64	64	33	1	10	0	3
67	64	64	33	1	10	0	3
68	64	64	33	1	10	0	3
69	64	64	33	1	10	0	3
70	64	64	33	1	10	0	3
71	64	64	33	1	10	0	3
72	64	64	33	1	10	0	3
73	64	64	33	1	10	0	3
74	64	64	33	1	10	0	3
75	64	64	33	1	10	0	3
76	64	64	33	1	10	0	3
77	64	64	33	1	10	0	3
78	64	64	33	1	10	0	3
79	64	64	33	1	10	0	3
80	64	64	33	1	10	0	3
81	64	64	33	1	10	0	3
82	64	64	33	1	10	0	3
83	64	64	33	1	10	0	3
84	64	64	33	1	10	0	3
85	64	64	33	1	10	0	3
86	64	64	33	1	10	0	3
87	64	64	33	1	10	0	3
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89	64	64	33	1	10	0	3
90	64	64	33	1	10	0	3
91	64	64	33	1	10	0	3
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95	64	64	33	1	10	0	3
96	64	64	33	1	10	0	3
97	64	64	33	1	10	0	3
98	64	64	33	1	10	0	3
99	64	64	33	1	10	0	3
100	64	64	33	1	10	0	3

HOT NUM = 1  
DEPTH 6.0  
TEMP -1.66  
SALIN 30.59

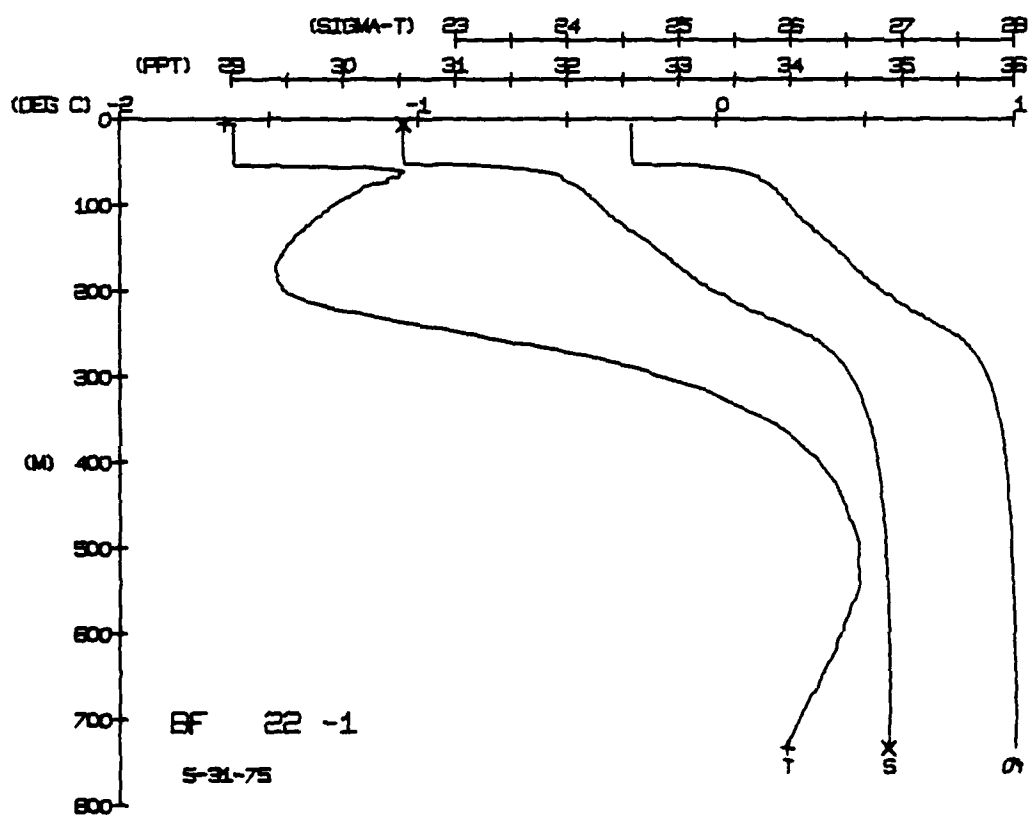
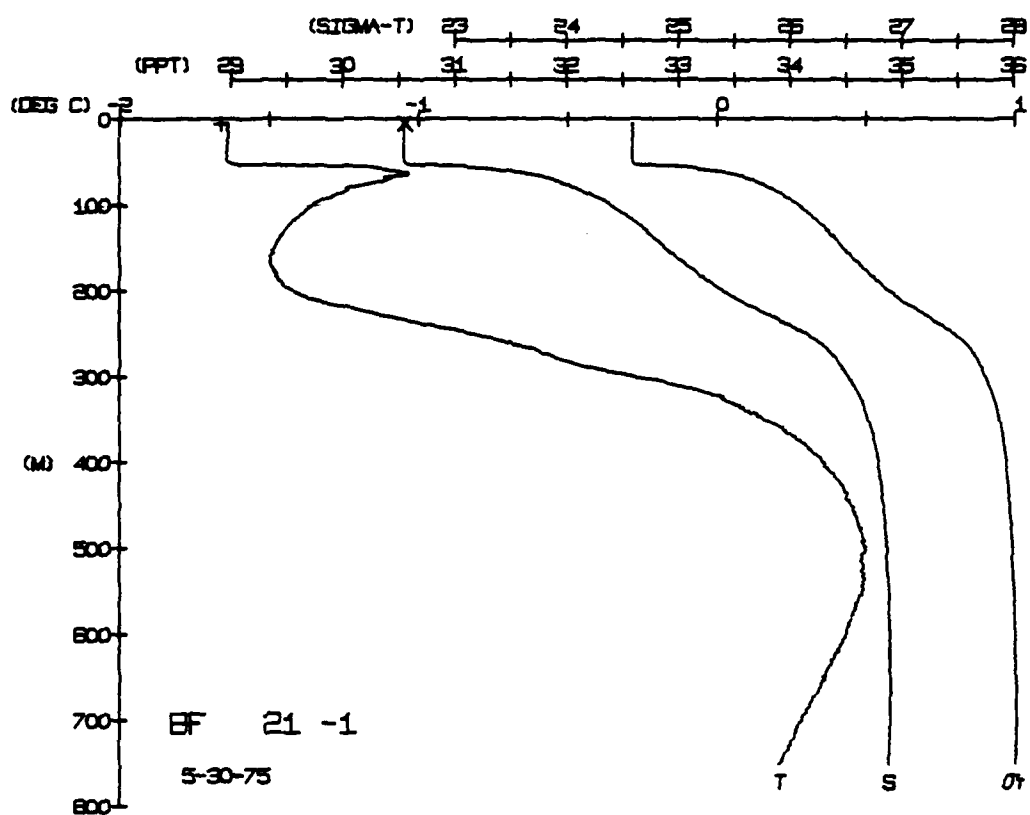
BLUE FOX STATION 20(1) CTD 29/MAY/1975 2307 GMT CODE = 1  
LAT = 77.0640N LMG = 144.5358W LTER = 1 LGER = 2  
AIR TEMP = -6.3 BARUM = 1038.1 WIND = 94.7 SPEED = 70.5

DEPTH	TEMP	PTEMP	SALIN	SIG T	SPVUL	DYNHT	SOUND
0	66	66	33	1	10	0	3
1	66	66	33	1	10	0	3
2	66	66	33	1	10	0	3
3	66	66	33	1	10	0	3
4	66	66	33	1	10	0	3
5	66	66	33	1	10	0	3
6	66	66	33	1	10	0	3
7	66	66	33	1	10	0	3
8	66	66	33	1	10	0	3
9	66	66	33	1	10	0	3
10	66	66	33	1	10	0	3
11	66	66	33	1	10	0	3
12	66	66	33	1	10	0	3
13	66	66	33	1	10	0	3
14	66	66	33	1	10	0	3
15	66	66	33	1	10	0	3
16	66	66	33	1	10	0	3
17	66	66	33	1	10	0	3
18	66	66	33	1	10	0	3
19	66	66	33	1	10	0	3
20	66	66	33	1	10	0	3
21	66	66	33	1	10	0	3
22	66	66	33	1	10	0	3
23	66	66	33	1	10	0	3
24	66	66	33	1	10	0	3
25	66	66	33	1	10	0	3
26	66	66	33	1	10	0	3
27	66	66	33	1	10	0	3
28	66	66	33	1	10	0	3
29	66	66	33	1	10	0	3
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31	66	66	33	1	10	0	3
32	66	66	33	1	10	0	3
33	66	66	33	1	10	0	3
34	66	66	33	1	10	0	3
35	66	66	33	1	10	0	3
36	66	66	33	1	10	0	3
37	66	66	33	1	10	0	3
38	66	66	33	1	10	0	3
39	66	66	33	1	10	0	3
40	66	66	33	1	10	0	3
41	66	66	33	1	10	0	3
42	66	66	33	1	10	0	3
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49	66	66	33	1	10	0	3
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53	66	66	33	1	10	0	3
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55	66	66	33	1	10	0	3
56	66	66	33	1	10	0	3
57	66	66	33	1	10	0	3
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62	66	66	33	1	10	0	3
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64	66	66	33	1	10	0	3
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67	66	66	33	1	10	0	3
68	66	66	33	1	10	0	3
69	66	66	33	1	10	0	3
70	66	66	33	1	10	0	3
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72	66	66	33	1	10	0	3
73	66	66	33	1	10	0	3
74	66	66	33	1	10	0	3
75	66	66	33	1	10	0	3
76	66	66	33	1	10	0	3
77	66	66	33	1	10	0	3
78	66	66	33	1	10	0	3
79	66	66	33	1	10	0	3
80	66	66	33	1	10	0	3
81	66	66	33	1	10	0	3
82	66	66	33	1	10	0	3
83	66	66	33	1	10	0	3
84	66	66	33	1	10	0	3
85	66	66	33	1	10	0	3
86	66	66	33	1	10	0	3
87	66	66	33	1	10	0	3
88	66	66	33	1	10	0	3
89	66	66	33	1	10	0	3
90	66	66	33	1	10	0	3
91	66	66	33	1	10	0	3
92	66	66	33	1	10	0	3
93	66	66	33	1	10	0	3
94	66	66	33	1	10	0	3
95	66	66	33	1	10	0	3
96	66	66	33	1	10	0	3
97	66	66	33	1	10	0	3
98	66	66	33	1	10	0	3
99	66	66	33	1	10	0	3
100	66	66	33	1	10	0	3

HOT NUM = 1  
DEPTH 5.1  
TEMP -1.66  
SALIN 30.57





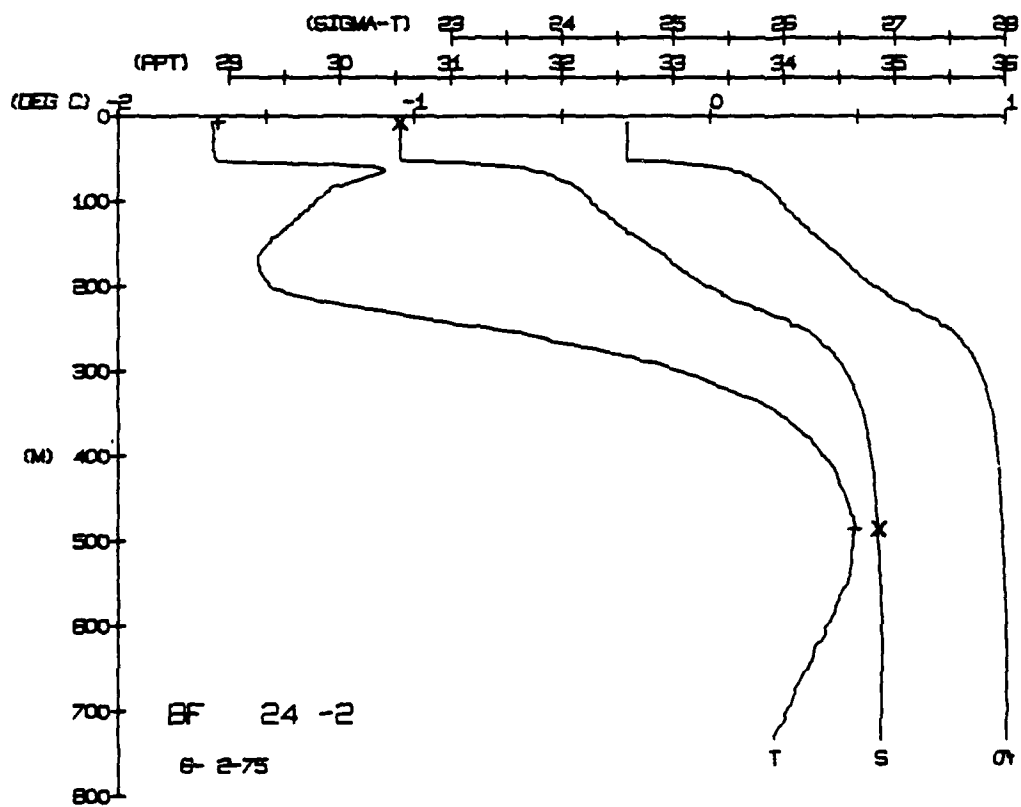
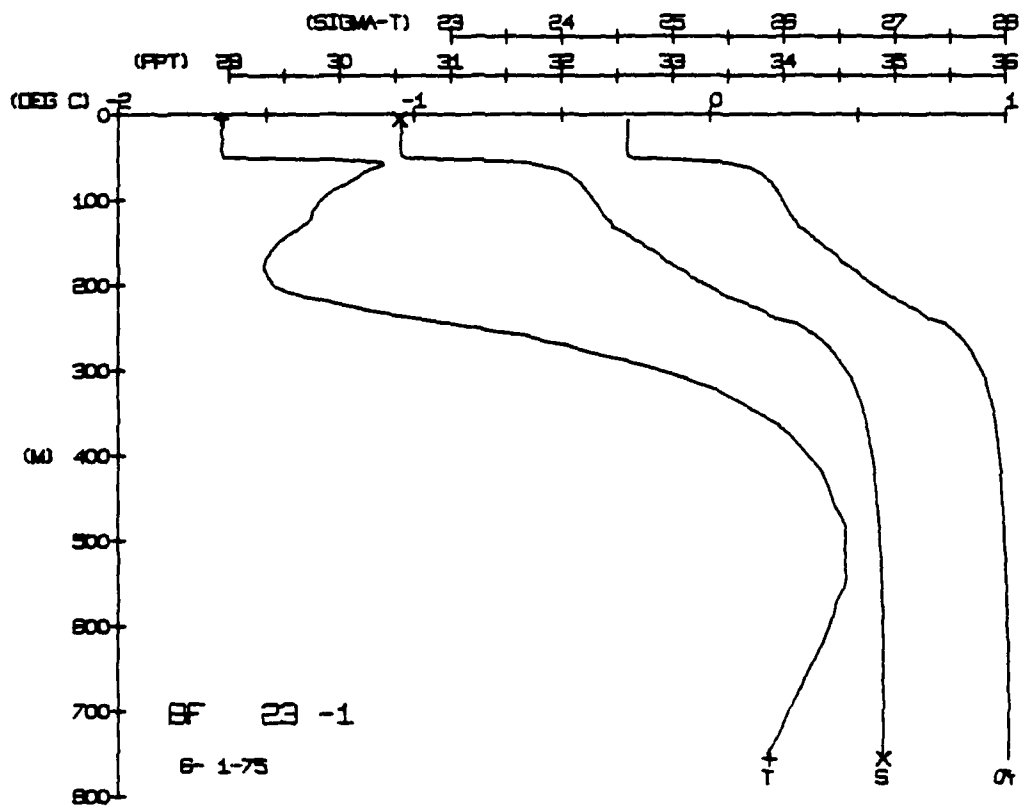


BLUE FOX STATION 24(2) CTD 2/JUN/1975 1810 GMT COUN = 2  
LAT = 77.104N LNG = 145.2757W ITEX = 0 LGER = 0  
AIR TEMP = -9.0 BAROM = 1025.4 WIND = 24.9 SPEED = 28.0

DEPTH	TEMP	PTEMP	SALIN	SIG T	SPVUL	DYNHT	SOUND
0	65	65	30	9	335	0	14335
0.5	66	66	30	59	335	0017	14335
1	66	66	30	59	335	0024	14335
1.5	66	66	30	59	335	0051	14335
2	66	66	30	59	335	0084	14335
2.5	66	66	30	59	335	0118	14335
3	66	66	30	59	335	0152	14335
3.5	66	66	30	59	335	0187	14335
4	66	66	30	59	335	0224	14335
4.5	66	66	30	59	335	0268	14335
5	66	66	30	59	335	0303	14335
5.5	66	66	30	59	335	0342	14335
6	66	66	30	59	335	0379	14335
6.5	66	66	30	59	335	0424	14335
7	66	66	30	59	335	0455	14335
7.5	66	66	30	59	335	0489	14335
8	66	66	30	59	335	0525	14335
8.5	66	66	30	59	335	0555	14335
9	66	66	30	59	335	0585	14335
9.5	66	66	30	59	335	0618	14335
10	66	66	30	59	335	0651	14335
10.5	66	66	30	59	335	0683	14335
11	66	66	30	59	335	0715	14335
11.5	66	66	30	59	335	0747	14335
12	66	66	30	59	335	0779	14335
12.5	66	66	30	59	335	0811	14335
13	66	66	30	59	335	0843	14335
13.5	66	66	30	59	335	0875	14335
14	66	66	30	59	335	0907	14335
14.5	66	66	30	59	335	0939	14335
15	66	66	30	59	335	0971	14335
15.5	66	66	30	59	335	1003	14335
16	66	66	30	59	335	1035	14335
16.5	66	66	30	59	335	1067	14335
17	66	66	30	59	335	1099	14335
17.5	66	66	30	59	335	1131	14335
18	66	66	30	59	335	1163	14335
18.5	66	66	30	59	335	1195	14335
19	66	66	30	59	335	1227	14335
19.5	66	66	30	59	335	1259	14335
20	66	66	30	59	335	1291	14335
20.5	66	66	30	59	335	1323	14335
21	66	66	30	59	335	1355	14335
21.5	66	66	30	59	335	1387	14335
22	66	66	30	59	335	1419	14335
22.5	66	66	30	59	335	1451	14335
23	66	66	30	59	335	1483	14335
23.5	66	66	30	59	335	1515	14335
24	66	66	30	59	335	1547	14335
24.5	66	66	30	59	335	1579	14335
25	66	66	30	59	335	1611	14335
25.5	66	66	30	59	335	1643	14335
26	66	66	30	59	335	1675	14335
26.5	66	66	30	59	335	1707	14335
27	66	66	30	59	335	1739	14335
27.5	66	66	30	59	335	1771	14335
28	66	66	30	59	335	1803	14335
28.5	66	66	30	59	335	1835	14335
29	66	66	30	59	335	1867	14335
29.5	66	66	30	59	335	1899	14335
30	66	66	30	59	335	1931	14335
30.5	66	66	30	59	335	1963	14335
31	66	66	30	59	335	1995	14335
31.5	66	66	30	59	335	2027	14335
32	66	66	30	59	335	2059	14335
32.5	66	66	30	59	335	2091	14335
33	66	66	30	59	335	2123	14335
33.5	66	66	30	59	335	2155	14335
34	66	66	30	59	335	2187	14335
34.5	66	66	30	59	335	2219	14335
35	66	66	30	59	335	2251	14335
35.5	66	66	30	59	335	2283	14335
36	66	66	30	59	335	2315	14335
36.5	66	66	30	59	335	2347	14335
37	66	66	30	59	335	2379	14335
37.5	66	66	30	59	335	2411	14335
38	66	66	30	59	335	2443	14335
38.5	66	66	30	59	335	2475	14335
39	66	66	30	59	335	2507	14335
39.5	66	66	30	59	335	2539	14335
40	66	66	30	59	335	2571	14335
40.5	66	66	30	59	335	2603	14335
41	66	66	30	59	335	2635	14335
41.5	66	66	30	59	335	2667	14335
42	66	66	30	59	335	2699	14335
42.5	66	66	30	59	335	2731	14335
43	66	66	30	59	335	2763	14335
43.5	66	66	30	59	335	2795	14335
44	66	66	30	59	335	2827	14335
44.5	66	66	30	59	335	2859	14335
45	66	66	30	59	335	2891	14335
45.5	66	66	30	59	335	2923	14335
46	66	66	30	59	335	2955	14335
46.5	66	66	30	59	335	2987	14335
47	66	66	30	59	335	3019	14335
47.5	66	66	30	59	335	3051	14335
48	66	66	30	59	335	3083	14335
48.5	66	66	30	59	335	3115	14335
49	66	66	30	59	335	3147	14335
49.5	66	66	30	59	335	3179	14335
50	66	66	30	59	335	3211	14335

DEPTH	TEMP.	SALIN
6.7	-1.66	30.53
484.9	0.49	34.86

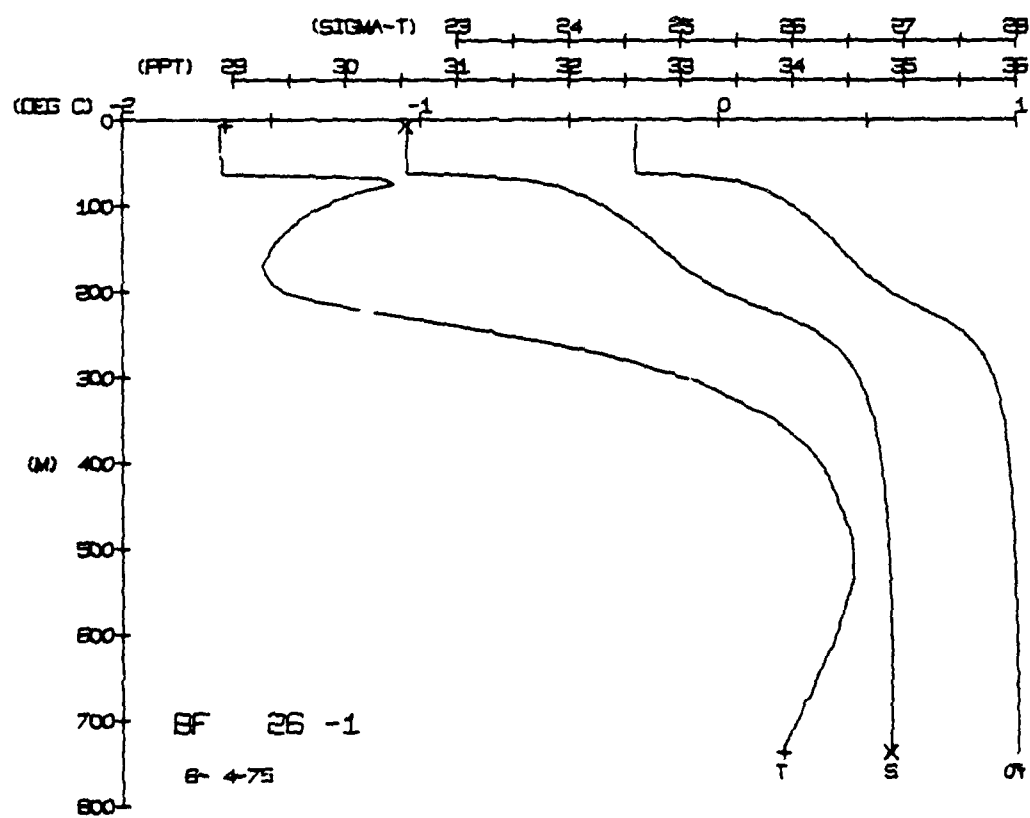
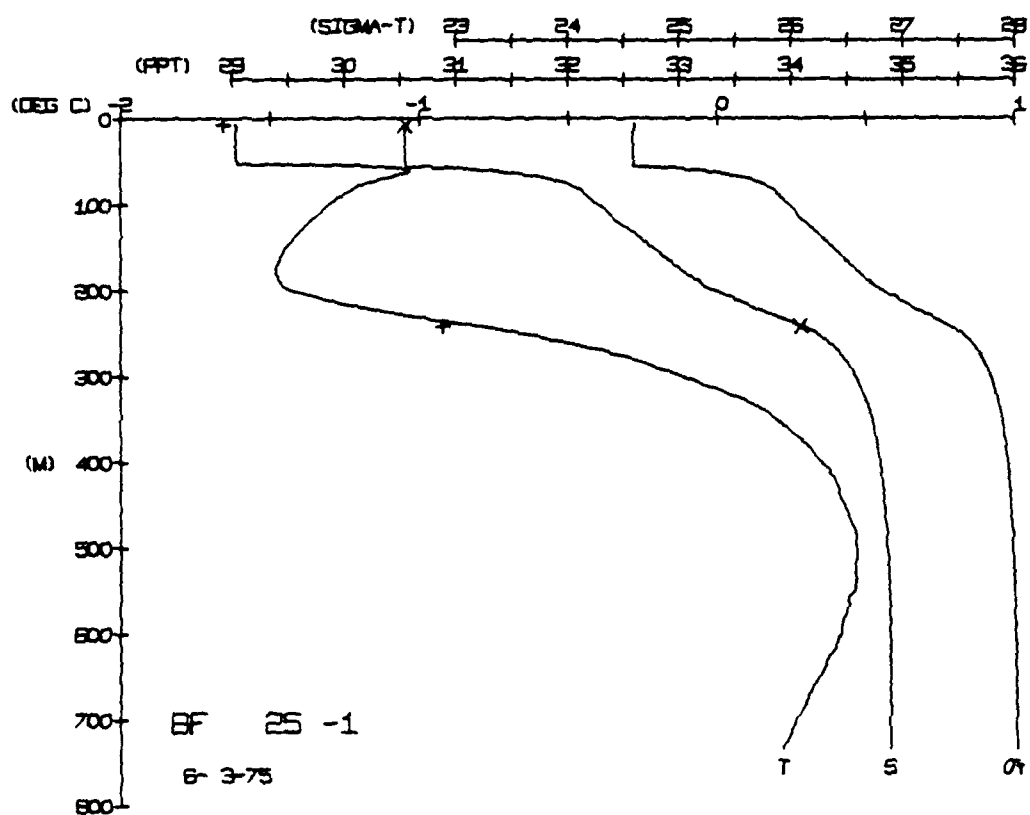
30-53  
34-86



BLUE FOX STATION 25(1) CTD 3/JUN/1975 1813 GMT CHIDE = 2  
LAT = 77.1162N LNC = 145.4456W LTR = 0.0 LGR = 0.0  
AIR TEMP = -9.0 BARUM = 1021.3 WIND = 24.0 SPEED = 28.0

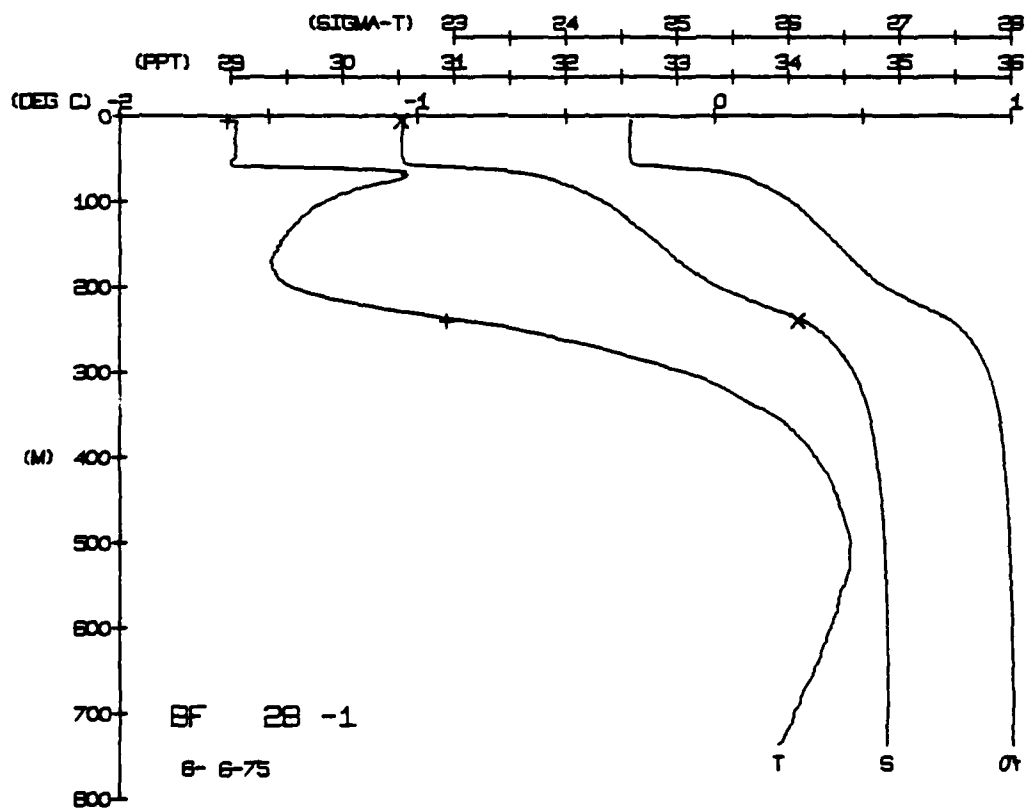
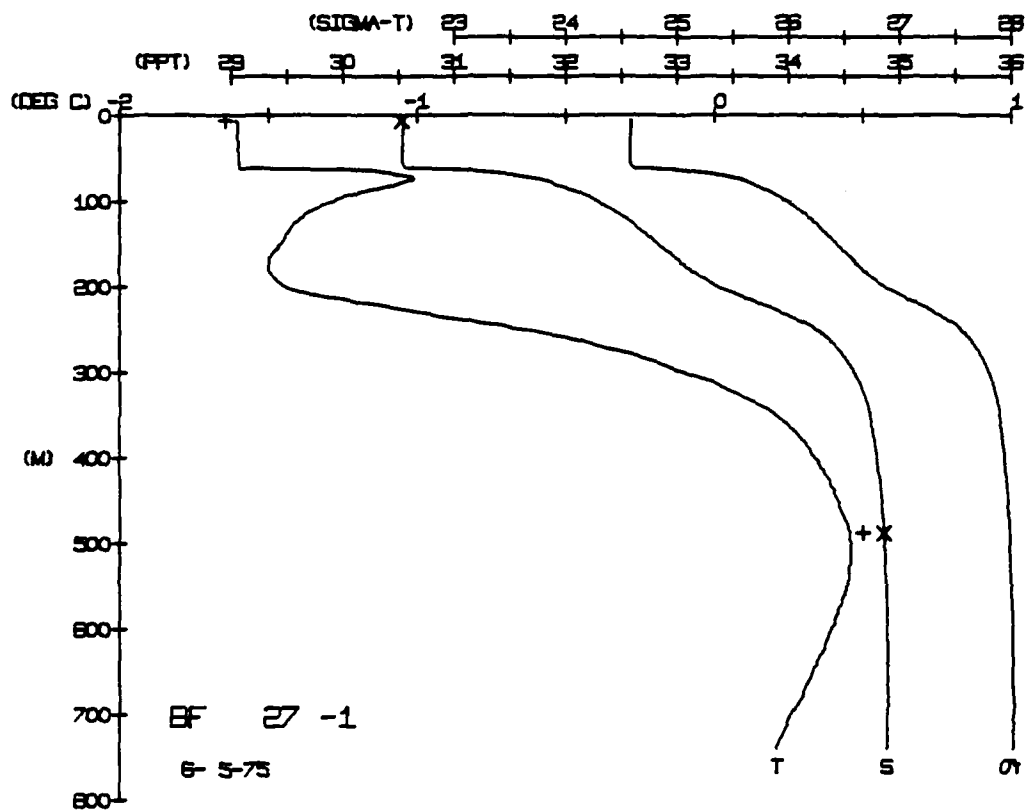
DEPTH	TEMP	PTEMP	SALIN	SIG T	SPVOL	DYNHT	SOUND
0	6.1	6.1	30.0	5.5	8	00	435.5
5	6.0	6.0	30.0	5.5	7	00	433.5
10	5.9	5.9	30.0	5.5	7	00	433.5
15	5.8	5.8	30.0	5.5	7	00	433.5
20	5.7	5.7	30.0	5.5	7	00	433.5
25	5.6	5.6	30.0	5.5	7	00	433.5
30	5.5	5.5	30.0	5.5	7	00	433.5
35	5.4	5.4	30.0	5.5	7	00	433.5
40	5.3	5.3	30.0	5.5	7	00	433.5
45	5.2	5.2	30.0	5.5	7	00	433.5
50	5.1	5.1	30.0	5.5	7	00	433.5
55	5.0	5.0	30.0	5.5	7	00	433.5
60	4.9	4.9	30.0	5.5	7	00	433.5
65	4.8	4.8	30.0	5.5	7	00	433.5
70	4.7	4.7	30.0	5.5	7	00	433.5
75	4.6	4.6	30.0	5.5	7	00	433.5
80	4.5	4.5	30.0	5.5	7	00	433.5
85	4.4	4.4	30.0	5.5	7	00	433.5
90	4.3	4.3	30.0	5.5	7	00	433.5
95	4.2	4.2	30.0	5.5	7	00	433.5
100	4.1	4.1	30.0	5.5	7	00	433.5
105	4.0	4.0	30.0	5.5	7	00	433.5
110	3.9	3.9	30.0	5.5	7	00	433.5
115	3.8	3.8	30.0	5.5	7	00	433.5
120	3.7	3.7	30.0	5.5	7	00	433.5
125	3.6	3.6	30.0	5.5	7	00	433.5
130	3.5	3.5	30.0	5.5	7	00	433.5
135	3.4	3.4	30.0	5.5	7	00	433.5
140	3.3	3.3	30.0	5.5	7	00	433.5
145	3.2	3.2	30.0	5.5	7	00	433.5
150	3.1	3.1	30.0	5.5	7	00	433.5
155	3.0	3.0	30.0	5.5	7	00	433.5
160	2.9	2.9	30.0	5.5	7	00	433.5
165	2.8	2.8	30.0	5.5	7	00	433.5
170	2.7	2.7	30.0	5.5	7	00	433.5
175	2.6	2.6	30.0	5.5	7	00	433.5
180	2.5	2.5	30.0	5.5	7	00	433.5
185	2.4	2.4	30.0	5.5	7	00	433.5
190	2.3	2.3	30.0	5.5	7	00	433.5
195	2.2	2.2	30.0	5.5	7	00	433.5
200	2.1	2.1	30.0	5.5	7	00	433.5
205	2.0	2.0	30.0	5.5	7	00	433.5
210	1.9	1.9	30.0	5.5	7	00	433.5
215	1.8	1.8	30.0	5.5	7	00	433.5
220	1.7	1.7	30.0	5.5	7	00	433.5
225	1.6	1.6	30.0	5.5	7	00	433.5
230	1.5	1.5	30.0	5.5	7	00	433.5
235	1.4	1.4	30.0	5.5	7	00	433.5
240	1.3	1.3	30.0	5.5	7	00	433.5
245	1.2	1.2	30.0	5.5	7	00	433.5
250	1.1	1.1	30.0	5.5	7	00	433.5
255	1.0	1.0	30.0	5.5	7	00	433.5
260	0.9	0.9	30.0	5.5	7	00	433.5
265	0.8	0.8	30.0	5.5	7	00	433.5
270	0.7	0.7	30.0	5.5	7	00	433.5
275	0.6	0.6	30.0	5.5	7	00	433.5
280	0.5	0.5	30.0	5.5	7	00	433.5
285	0.4	0.4	30.0	5.5	7	00	433.5
290	0.3	0.3	30.0	5.5	7	00	433.5
295	0.2	0.2	30.0	5.5	7	00	433.5
300	0.1	0.1	30.0	5.5	7	00	433.5
305	0.0	0.0	30.0	5.5	7	00	433.5
310	0.0	0.0	30.0	5.5	7	00	433.5
315	0.0	0.0	30.0	5.5	7	00	433.5
320	0.0	0.0	30.0	5.5	7	00	433.5
325	0.0	0.0	30.0	5.5	7	00	433.5
330	0.0	0.0	30.0	5.5	7	00	433.5
335	0.0	0.0	30.0	5.5	7	00	433.5
340	0.0	0.0	30.0	5.5	7	00	433.5
345	0.0	0.0	30.0	5.5	7	00	433.5
350	0.0	0.0	30.0	5.5	7	00	433.5
355	0.0	0.0	30.0	5.5	7	00	433.5
360	0.0	0.0	30.0	5.5	7	00	433.5
365	0.0	0.0	30.0	5.5	7	00	433.5
370	0.0	0.0	30.0	5.5	7	00	433.5
375	0.0	0.0	30.0	5.5	7	00	433.5
380	0.0	0.0	30.0	5.5	7	00	433.5
385	0.0	0.0	30.0	5.5	7	00	433.5
390	0.0	0.0	30.0	5.5	7	00	433.5
395	0.0	0.0	30.0	5.5	7	00	433.5
400	0.0	0.0	30.0	5.5	7	00	433.5
405	0.0	0.0	30.0	5.5	7	00	433.5
410	0.0	0.0	30.0	5.5	7	00	433.5
415	0.0	0.0	30.0	5.5	7	00	433.5
420	0.0	0.0	30.0	5.5	7	00	433.5
425	0.0	0.0	30.0	5.5	7	00	433.5
430	0.0	0.0	30.0	5.5	7	00	433.5
435	0.0	0.0	30.0	5.5	7	00	433.5
440	0.0	0.0	30.0	5.5	7	00	433.5
445	0.0	0.0	30.0	5.5	7	00	433.5
450	0.0	0.0	30.0	5.5	7	00	433.5
455	0.0	0.0	30.0	5.5	7	00	433.5
460	0.0	0.0	30.0	5.5	7	00	433.5
465	0.0	0.0	30.0	5.5	7	00	433.5
470	0.0	0.0	30.0	5.5	7	00	433.5
475	0.0	0.0	30.0	5.5	7	00	433.5
480	0.0	0.0	30.0	5.5	7	00	433.5
485	0.0	0.0	30.0	5.5	7	00	433.5
490	0.0	0.0	30.0	5.5	7	00	433.5
495	0.0	0.0	30.0	5.5	7	00	433.5
500	0.0	0.0	30.0	5.5	7	00	433.5
505	0.0	0.0	30.0	5.5	7	00	433.5
510	0.0	0.0	30.0	5.5	7	00	433.5
515	0.0	0.0	30.0	5.5	7	00	433.5
520	0.0	0.0	30.0	5.5	7	00	433.5
525	0.0	0.0	30.0	5.5	7	00	433.5
530	0.0	0.0	30.0	5.5	7	00	433.5
535	0.0	0.0	30.0	5.5	7	00	433.5
540	0.0	0.0	30.0	5.5	7	00	433.5
545	0.0	0.0	30.0	5.5	7	00	433.5
550	0.0	0.0	30.0	5.5	7	00	433.5
555	0.0	0.0	30.0	5.5	7	00	433.5
560	0.0	0.0	30.0	5.5	7	00	433.5
565	0.0	0.0	30.0	5.5	7	00	433.5
570	0.0	0.0	30.0	5.5	7	00	433.5
575	0.0	0.0	30.0	5.5	7	00	433.5
580	0.0	0.0	30.0	5.5	7	00	433.5
585	0.0	0.0	30.0	5.5	7	00	433.5
590	0.0	0.0	30.0	5.5	7	00	433.5
595	0.0	0.0	30.0	5.5	7	00	433.5
600	0.0	0.0	30.0	5.5	7	00	433.5
605	0.0	0.0	30.0	5.5	7	00	433.5
610	0.0	0.0	30.0	5.5	7	00	433.5
615	0.0	0.0	30.0	5.5	7	00	433.5
620	0.0	0.0	30.0	5.5	7	00	433.5
625	0.0	0.0	30.0	5.5	7	00	433.5
630	0.0	0.0	30.0	5.5	7	00	433.5
635	0.0	0.0	30.0	5.5	7	00	433.5
640	0.0	0.0	30.0	5.5	7	00	433.5
645	0.0	0.0	30.0	5.5	7	00	433.5
650	0.0	0.0	30.0	5.5	7	00	433.5
655	0.0	0.0	30.0	5.5	7	00	433.5
660	0.0	0.0	30.0	5.5	7	00	433.5
665	0.0	0.0	30.0	5.5	7	00	433.5
670	0.0	0.0	30.0	5.5	7	00	433.5
675	0.0	0.0	30.0	5.5	7	00	433.5
680	0.0	0.0	30.0	5.5	7	00	433.5
685	0.0	0.0	30.0	5.5	7	00	433.5
690	0.0	0.0	30.0	5.5	7	00	433.5
695	0.0	0.0	30.0	5.5	7	00	433.5
700	0.0	0.0	30.0	5.5	7	00	433.5
705	0.0	0.0	30.0	5.5	7	00	433.5
710	0.0	0.0	30.0	5.5	7	00	433.5
715	0.0	0.0	30.0	5.5	7	00	433.5
720	0.0	0.0	30.0	5.5	7	00	433.5
725	0.0	0.0	30.0	5.5	7	00	433.5
730	0.0	0.0	30.0	5.5	7	00	433.5
735	0.0	0.0	30.0	5.5	7	00	433.5
740	0.0	0.0	30.0	5.5	7	00	433.5
745	0.0	0.0	30.0	5.5	7	00	433.5
750	0.0	0.0	30.0	5.5	7	00	433.5
755	0.0	0.0	30.0	5.5	7	00	433.5
760	0.0	0.0	30.0	5.5	7	00	433.5
765	0.0	0.0	30.0	5.5	7	00	433.5
770	0.0	0.0	30.0	5.5	7	00	433.5
775	0.0	0.0	30.0	5.5	7	00	433.5
780	0.0	0.0	30.0	5.5	7	00	433.5
785	0.0	0.0	30.0	5.5	7	00	433.5
790	0.0	0.0	30.0	5.5	7	00	433.5
795	0.0	0.0	30.0	5.5	7	00	433.5
800	0.0	0.0	30.0	5.5	7	00	433.5
805	0.0	0.0	30.0	5.5	7	00	433.5
810	0.0	0.0	30.0	5.5	7	00	433.5
815	0.0	0.0	30.0	5.5	7	00	433.5
820	0.0	0.0	30.0	5.5	7	00	433.5
825	0.0	0.0	30.0	5.5	7	00	433.5
830	0.0	0.0	30.0	5.5	7	00	433.5
835	0.0	0.0	30.0	5.5	7	00	433.5
840	0.0	0.0	30.0	5.5	7	00	433.5
845	0.0	0.0	30.0	5.5	7	00	433.5
850	0.0	0.0	30.0	5.5	7	00	433.5
855	0.0	0.0	30.0	5.5	7	00	433.5
860	0.0	0.0	30.0	5.5	7	00	433.5
865	0.0	0.0	30.0	5.5	7	00	433.5
870	0.0	0.0	30.0	5.5	7	00	433.5
875	0.0	0.0	30.0	5.5	7	00	433.5
880	0.0	0.0	30.0	5.5	7	00	433.5
885	0.0	0.0	30.0	5.5	7	00	433.5
890	0.0	0.0	30.0	5.5	7	00	433.5
895							





BLUE FOX STATION 28(1) CTD 6/JUN/1975 1802 GMT CODE = 2  
LAT = 77.066IN LUG = 146.1463W I.TER = 0 LGM = 0  
AIR TEMP = 0.0 BAROM = 1014.8 WIND = 23.5 SPFD = 52.8

DEPTH	TEMP	PTMP	SALIN	SIG T	SPVOL	DYNHT	SOUND
00	13.33	1.11	30.00	24.44	33.36	00.00	1435.45
05	13.33	1.11	30.00	24.44	33.36	00.01	1435.45
10	13.33	1.11	30.00	24.44	33.36	00.05	1435.45
15	13.33	1.11	30.00	24.44	33.36	00.08	1435.45
20	13.33	1.11	30.00	24.44	33.36	00.11	1435.45
25	13.33	1.11	30.00	24.44	33.36	00.14	1435.45
30	13.33	1.11	30.00	24.44	33.36	00.17	1435.45
35	13.33	1.11	30.00	24.44	33.36	00.21	1435.45
40	13.33	1.11	30.00	24.44	33.36	00.24	1435.45
45	13.33	1.11	30.00	24.44	33.36	00.27	1435.45
50	13.33	1.11	30.00	24.44	33.36	00.30	1435.45
55	13.33	1.11	30.00	24.44	33.36	00.33	1435.45
60	13.33	1.11	30.00	24.44	33.36	00.36	1435.45
65	13.33	1.11	30.00	24.44	33.36	00.39	1435.45
70	13.33	1.11	30.00	24.44	33.36	00.42	1435.45
75	13.33	1.11	30.00	24.44	33.36	00.45	1435.45
80	13.33	1.11	30.00	24.44	33.36	00.48	1435.45
85	13.33	1.11	30.00	24.44	33.36	00.51	1435.45
90	13.33	1.11	30.00	24.44	33.36	00.54	1435.45
95	13.33	1.11	30.00	24.44	33.36	00.57	1435.45
100	13.33	1.11	30.00	24.44	33.36	00.60	1435.45
105	13.33	1.11	30.00	24.44	33.36	00.63	1435.45
110	13.33	1.11	30.00	24.44	33.36	00.66	1435.45
115	13.33	1.11	30.00	24.44	33.36	00.69	1435.45
120	13.33	1.11	30.00	24.44	33.36	00.72	1435.45
125	13.33	1.11	30.00	24.44	33.36	00.75	1435.45
130	13.33	1.11	30.00	24.44	33.36	00.78	1435.45
135	13.33	1.11	30.00	24.44	33.36	00.81	1435.45
140	13.33	1.11	30.00	24.44	33.36	00.84	1435.45
145	13.33	1.11	30.00	24.44	33.36	00.87	1435.45
150	13.33	1.11	30.00	24.44	33.36	00.90	1435.45
155	13.33	1.11	30.00	24.44	33.36	00.93	1435.45
160	13.33	1.11	30.00	24.44	33.36	00.96	1435.45
165	13.33	1.11	30.00	24.44	33.36	00.99	1435.45
170	13.33	1.11	30.00	24.44	33.36	01.02	1435.45
175	13.33	1.11	30.00	24.44	33.36	01.05	1435.45
180	13.33	1.11	30.00	24.44	33.36	01.08	1435.45
185	13.33	1.11	30.00	24.44	33.36	01.11	1435.45
190	13.33	1.11	30.00	24.44	33.36	01.14	1435.45
195	13.33	1.11	30.00	24.44	33.36	01.17	1435.45
200	13.33	1.11	30.00	24.44	33.36	01.20	1435.45
205	13.33	1.11	30.00	24.44	33.36	01.23	1435.45
210	13.33	1.11	30.00	24.44	33.36	01.26	1435.45
215	13.33	1.11	30.00	24.44	33.36	01.29	1435.45
220	13.33	1.11	30.00	24.44	33.36	01.32	1435.45
225	13.33	1.11	30.00	24.44	33.36	01.35	1435.45
230	13.33	1.11	30.00	24.44	33.36	01.38	1435.45
235	13.33	1.11	30.00	24.44	33.36	01.41	1435.45
240							



BLUE FOX STATION 29(2) CTD 7/JUN/1975 1805 GMT CODE = 2  
LAT = 77.0250N LNC = 146.3145W LTER = 1.5 USER = 33.8  
AIR TEMP = 0.0 BARUM = 1020.2 WIND = 23.5 SPEED = 52.8

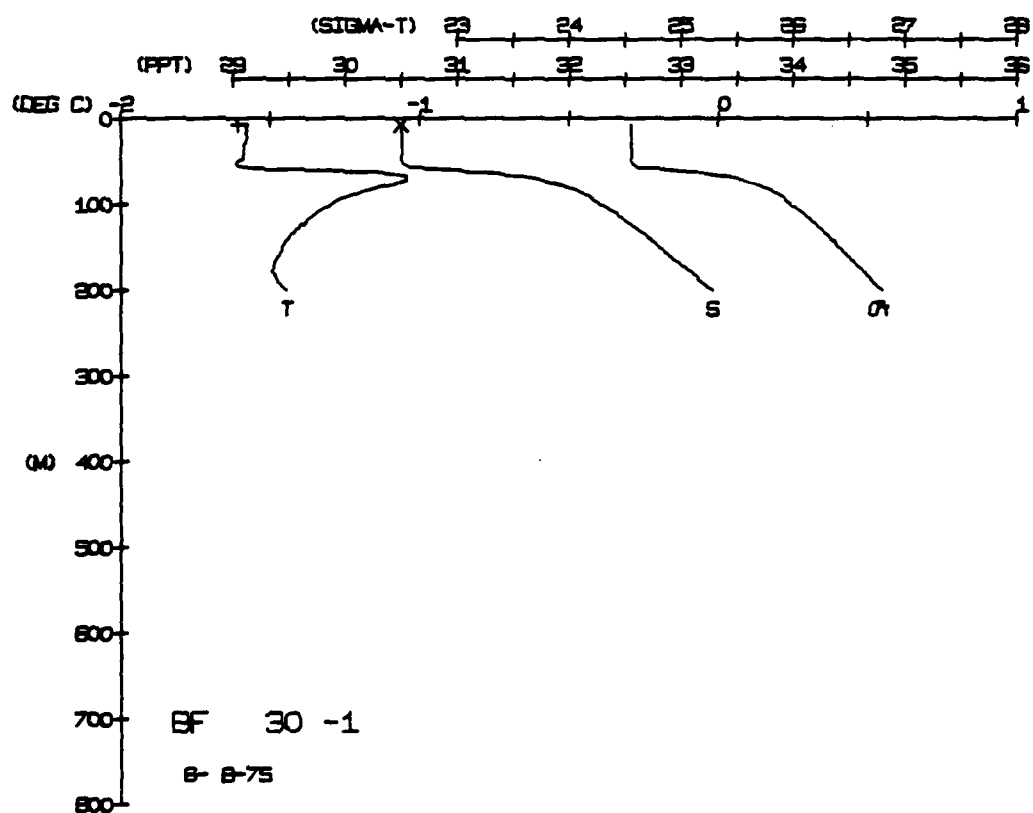
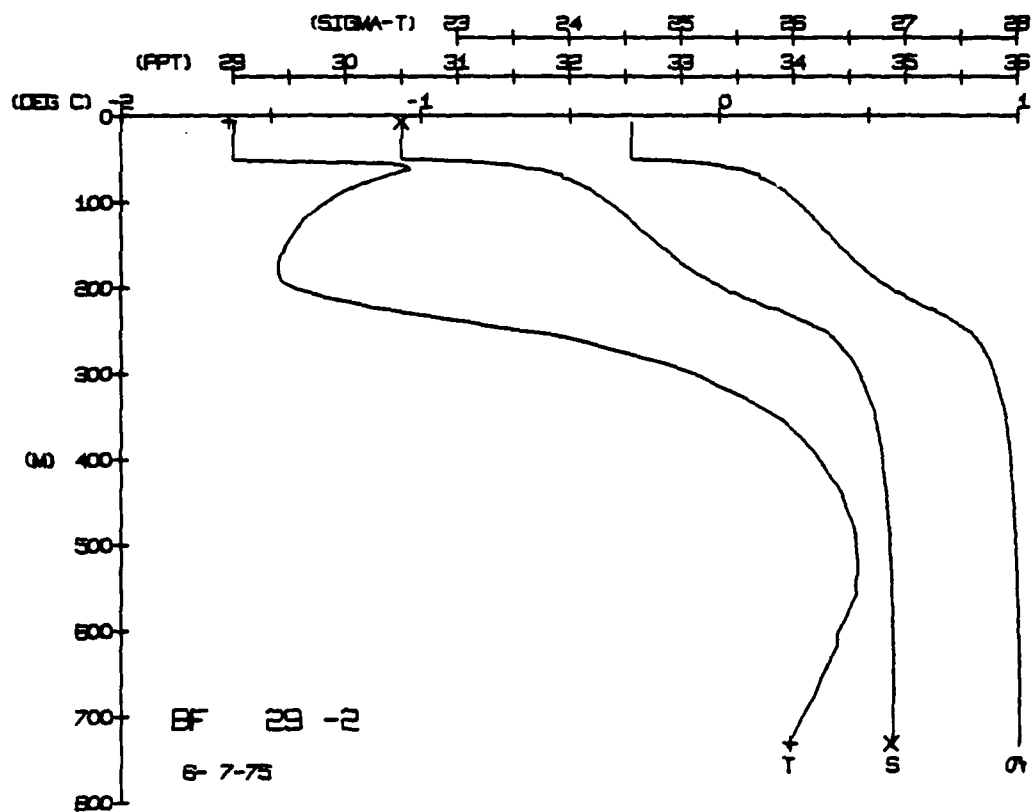
DEPTH	TEMP	PTEMP	SALIN	SIG T	SPV/L	DYNHT	SOUND
0	6.6	6.6	30.0	2.2	3.3	0.0	3.4
5	6.6	6.6	30.0	2.2	3.3	0.0	3.4
10	6.6	6.6	30.0	2.2	3.3	0.0	3.4
15	6.6	6.6	30.0	2.2	3.3	0.0	3.4
20	6.6	6.6	30.0	2.2	3.3	0.0	3.4
25	6.6	6.6	30.0	2.2	3.3	0.0	3.4
30	6.6	6.6	30.0	2.2	3.3	0.0	3.4
35	6.6	6.6	30.0	2.2	3.3	0.0	3.4
40	6.6	6.6	30.0	2.2	3.3	0.0	3.4
45	6.6	6.6	30.0	2.2	3.3	0.0	3.4
50	6.6	6.6	30.0	2.2	3.3	0.0	3.4
55	6.6	6.6	30.0	2.2	3.3	0.0	3.4
60	6.6	6.6	30.0	2.2	3.3	0.0	3.4
65	6.6	6.6	30.0	2.2	3.3	0.0	3.4
70	6.6	6.6	30.0	2.2	3.3	0.0	3.4
75	6.6	6.6	30.0	2.2	3.3	0.0	3.4
80	6.6	6.6	30.0	2.2	3.3	0.0	3.4
85	6.6	6.6	30.0	2.2	3.3	0.0	3.4
90	6.6	6.6	30.0	2.2	3.3	0.0	3.4
95	6.6	6.6	30.0	2.2	3.3	0.0	3.4
100	6.6	6.6	30.0	2.2	3.3	0.0	3.4
105	6.6	6.6	30.0	2.2	3.3	0.0	3.4
110	6.6	6.6	30.0	2.2	3.3	0.0	3.4
115	6.6	6.6	30.0	2.2	3.3	0.0	3.4
120	6.6	6.6	30.0	2.2	3.3	0.0	3.4
125	6.6	6.6	30.0	2.2	3.3	0.0	3.4
130	6.6	6.6	30.0	2.2	3.3	0.0	3.4
135	6.6	6.6	30.0	2.2	3.3	0.0	3.4
140	6.6	6.6	30.0	2.2	3.3	0.0	3.4
145	6.6	6.6	30.0	2.2	3.3	0.0	3.4
150	6.6	6.6	30.0	2.2	3.3	0.0	3.4
155	6.6	6.6	30.0	2.2	3.3	0.0	3.4
160	6.6	6.6	30.0	2.2	3.3	0.0	3.4
165	6.6	6.6	30.0	2.2	3.3	0.0	3.4
170	6.6	6.6	30.0	2.2	3.3	0.0	3.4
175	6.6	6.6	30.0	2.2	3.3	0.0	3.4
180	6.6	6.6	30.0	2.2	3.3	0.0	3.4
185	6.6	6.6	30.0	2.2	3.3	0.0	3.4
190	6.6	6.6	30.0	2.2	3.3	0.0	3.4
195	6.6	6.6	30.0	2.2	3.3	0.0	3.4
200	6.6	6.6	30.0	2.2	3.3	0.0	3.4

BUT NUM = 1  
HOT NUM = 2  
DEPTH 6.3  
730.5  
TEMP -1.64  
0.24  
SALIN 30.50  
34.88

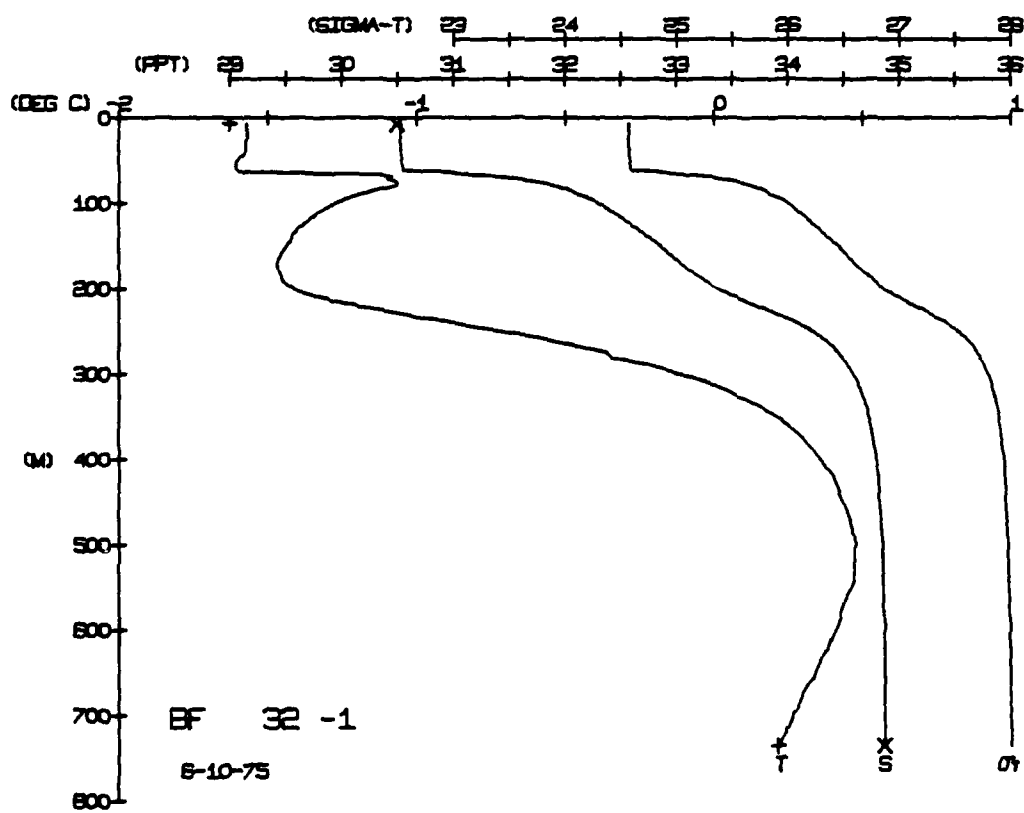
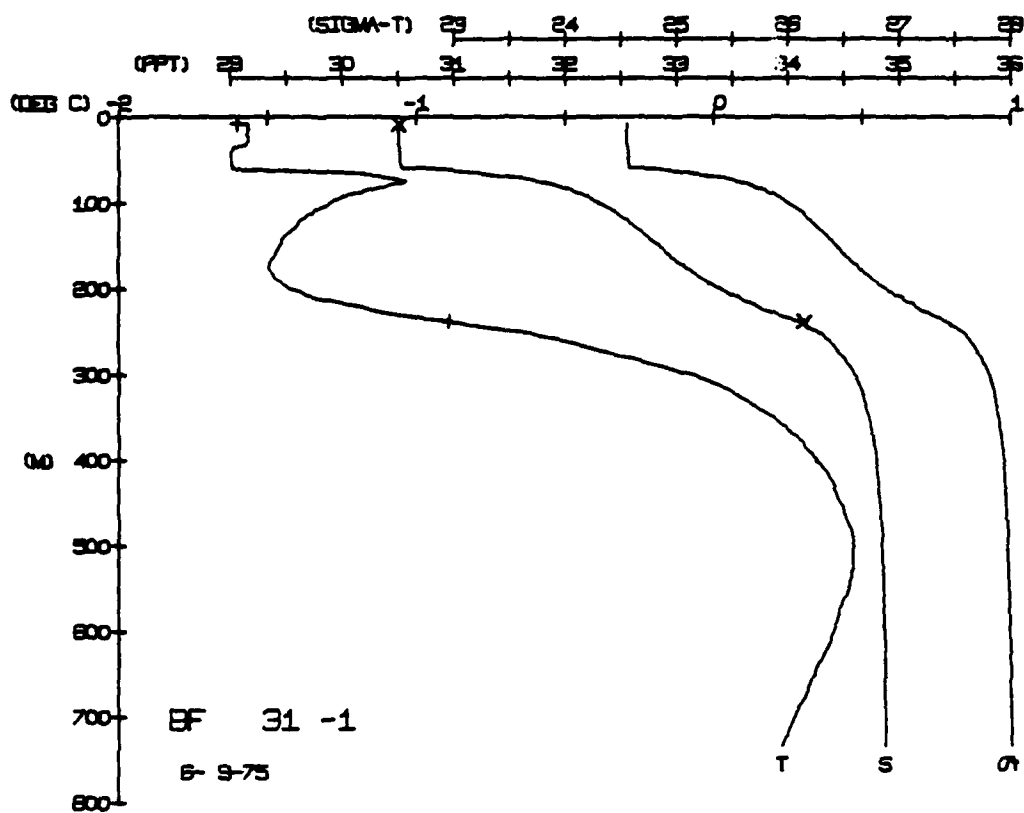
BLUE FOX STATION 30(1) CTD 8/JUN/1975 1800 GMT CODE = 2  
LAT = 76.9653N LNC = 146.4042W LTER = 0.0 USER = 1.1  
AIR TEMP = -0.7 BARUM = 1022.6 WIND = 323.7 SPEED = 48.7

DEPTH	TEMP	PTEMP	SALIN	SIG T	SPV/L	DYNHT	SOUND
0	8.8	8.8	30.5	2.2	3.3	0.0	14.3
5	8.8	8.8	30.5	2.2	3.3	0.0	14.3
10	8.8	8.8	30.5	2.2	3.3	0.0	14.3
15	8.8	8.8	30.5	2.2	3.3	0.0	14.3
20	8.8	8.8	30.5	2.2	3.3	0.0	14.3
25	8.8	8.8	30.5	2.2	3.3	0.0	14.3
30	8.8	8.8	30.5	2.2	3.3	0.0	14.3
35	8.8	8.8	30.5	2.2	3.3	0.0	14.3
40	8.8	8.8	30.5	2.2	3.3	0.0	14.3
45	8.8	8.8	30.5	2.2	3.3	0.0	14.3
50	8.8	8.8	30.5	2.2	3.3	0.0	14.3
55	8.8	8.8	30.5	2.2	3.3	0.0	14.3
60	8.8	8.8	30.5	2.2	3.3	0.0	14.3
65	8.8	8.8	30.5	2.2	3.3	0.0	14.3
70	8.8	8.8	30.5	2.2	3.3	0.0	14.3
75	8.8	8.8	30.5	2.2	3.3	0.0	14.3
80	8.8	8.8	30.5	2.2	3.3	0.0	14.3
85	8.8	8.8	30.5	2.2	3.3	0.0	14.3
90	8.8	8.8	30.5	2.2	3.3	0.0	14.3
95	8.8	8.8	30.5	2.2	3.3	0.0	14.3
100	8.8	8.8	30.5	2.2	3.3	0.0	14.3
105	8.8	8.8	30.5	2.2	3.3	0.0	14.3
110	8.8	8.8	30.5	2.2	3.3	0.0	14.3
115	8.8	8.8	30.5	2.2	3.3	0.0	14.3
120	8.8	8.8	30.5	2.2	3.3	0.0	14.3
125	8.8	8.8	30.5	2.2	3.3	0.0	14.3
130	8.8	8.8	30.5	2.2	3.3	0.0	14.3
135	8.8	8.8	30.5	2.2	3.3	0.0	14.3
140	8.8	8.8	30.5	2.2	3.3	0.0	14.3
145	8.8	8.8	30.5	2.2	3.3	0.0	14.3
150	8.8	8.8	30.5	2.2	3.3	0.0	14.3
155	8.8	8.8	30.5	2.2	3.3	0.0	14.3
160	8.8	8.8	30.5	2.2	3.3	0.0	14.3
165	8.8	8.8	30.5	2.2	3.3	0.0	14.3
170	8.8	8.8	30.5	2.2	3.3	0.0	14.3
175	8.8	8.8	30.5	2.2	3.3	0.0	14.3
180	8.8	8.8	30.5	2.2	3.3	0.0	14.3
185	8.8	8.8	30.5	2.2	3.3	0.0	14.3
190	8.8	8.8	30.5	2.2	3.3	0.0	14.3
195	8.8	8.8	30.5	2.2	3.3	0.0	14.3
200	8.8	8.8	30.5	2.2	3.3	0.0	14.3

BUT NUM = 1  
HOT NUM = 2  
DEPTH 6.1  
486.0  
TEMP -1.61  
0.96  
SALIN 30.50  
34.86





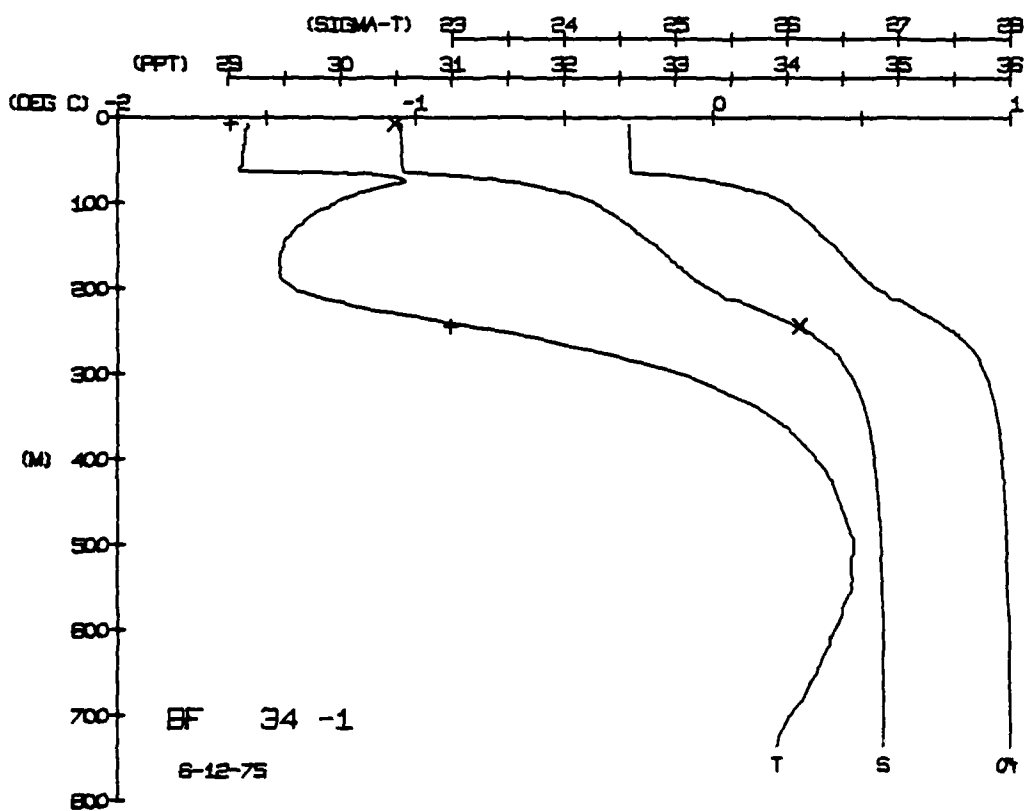
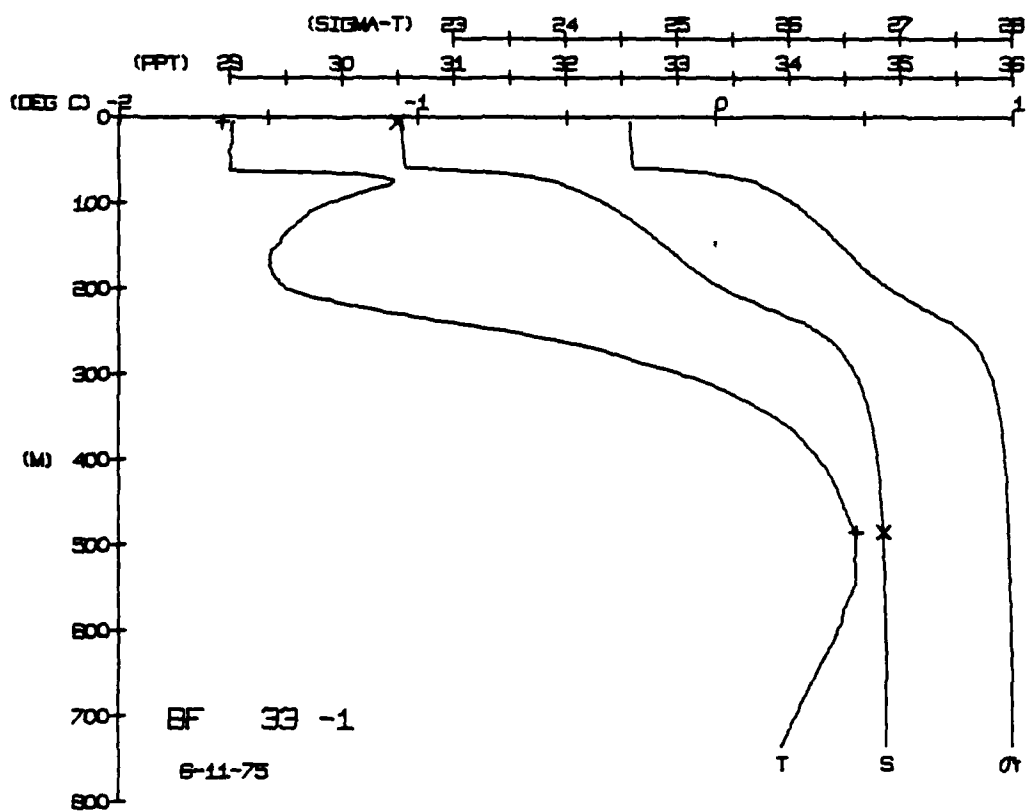


BLUE FOX STATION 34(1) CTD 12/JUN/1975 1819 GMT CUDE = 2  
LAT = 76.8268N LNG = 146.1367W WTER = 0 LGER = 0  
AIR TEMP = -1.2 BARUM = 1016.8 WIND = 348.5 SPEED = 34.6

[illegible]

	DEPTH	TEMP.	SALIN.
BOT NUM = 1	6.8	-1.62	30.48
BOT NUM = 2	242.9	-0.88	14.12





BLUE FOX STATION 35(1) CTD 13/JUN/1975 1811 GMT CODE = 1  
LAT = 76.8008N LNG = 146.2325W UFR = 0 LGER = 0  
AIR TEMP = -1.2 BAROM = 1014.3 WIND = 348.5 SPEED = 34.8

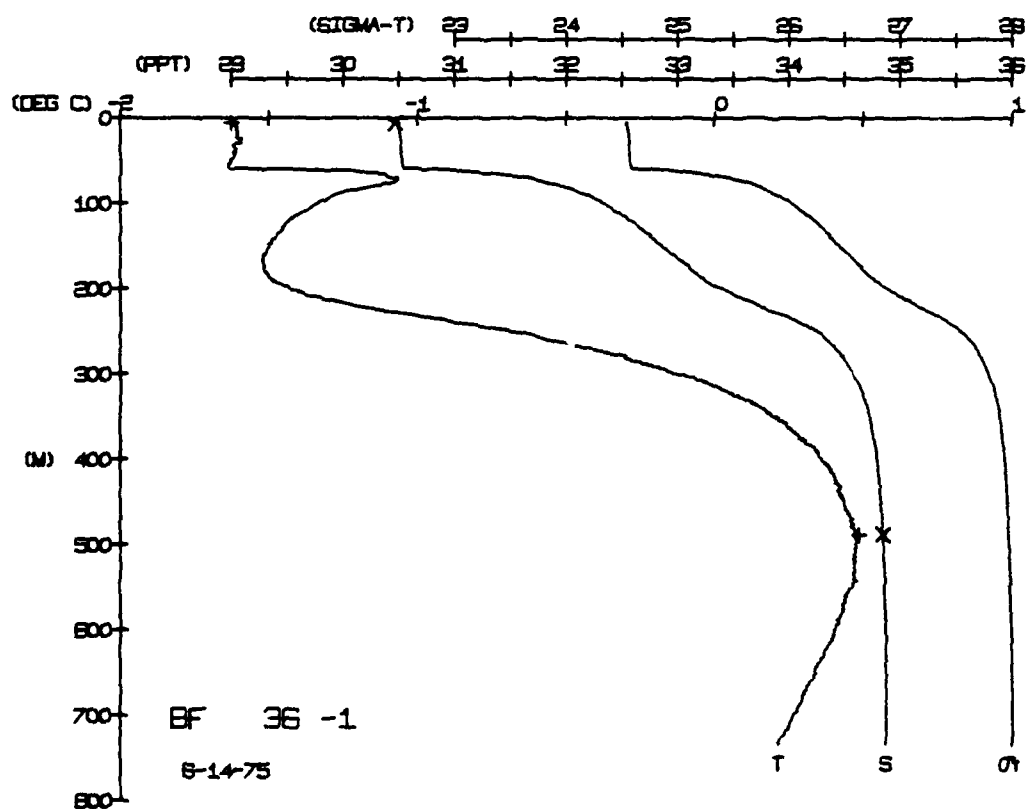
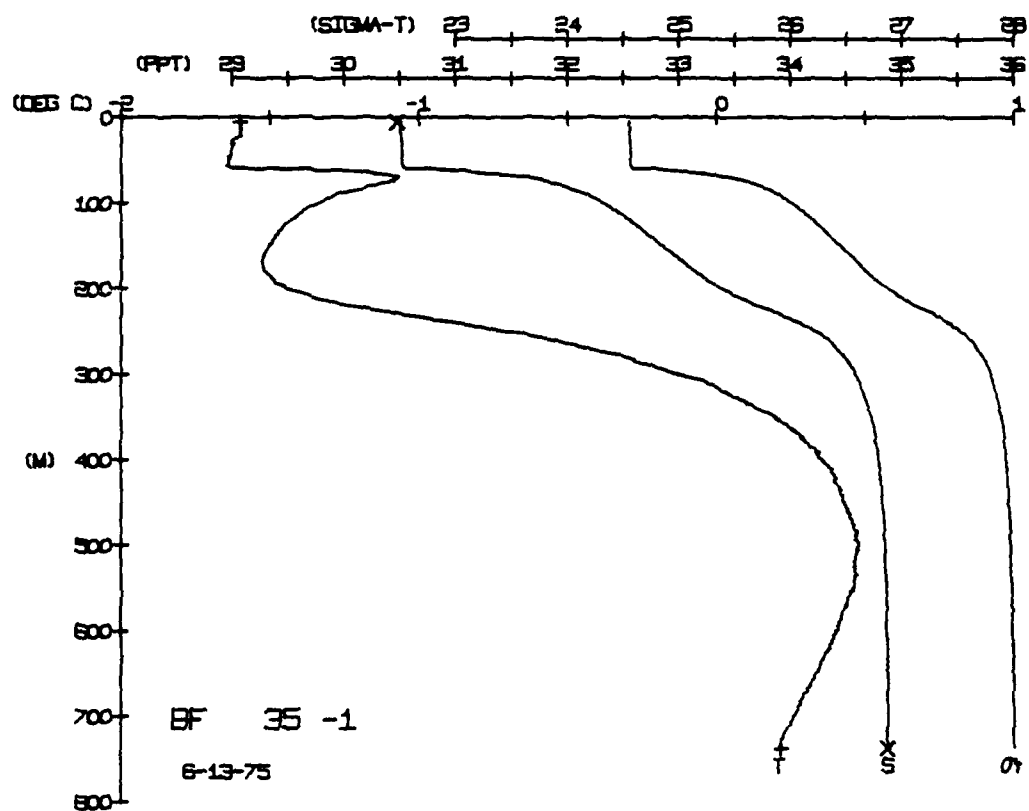
BLUE FOX STATION 36(1) CTD 14/JUN/1975 1800 GMT CODE = 1  
LAT = 76.7956N LNG = 146.2647W LTER = 0 UGER = 0  
AIR TEMP = -1.7 HARUM = 1018.0 WIND = 131.6 SPEED = 36.6

DEPTH	TEMP	PTMP	SALIN	SIG T	SPVUL	DYNHT	SOUND
0.0	66.6	000000	000000	5.57	4.77	0179	4.57
1.0	66.6	000000	000000	5.57	4.77	0179	4.57
2.0	66.6	000000	000000	5.57	4.77	0179	4.57
3.0	66.6	000000	000000	5.57	4.77	0179	4.57
4.0	66.6	000000	000000	5.57	4.77	0179	4.57
5.0	66.6	000000	000000	5.57	4.77	0179	4.57
6.0	66.6	000000	000000	5.57	4.77	0179	4.57
7.0	66.6	000000	000000	5.57	4.77	0179	4.57
8.0	66.6	000000	000000	5.57	4.77	0179	4.57
9.0	66.6	000000	000000	5.57	4.77	0179	4.57
10.0	66.6	000000	000000	5.57	4.77	0179	4.57
11.0	66.6	000000	000000	5.57	4.77	0179	4.57
12.0	66.6	000000	000000	5.57	4.77	0179	4.57
13.0	66.6	000000	000000	5.57	4.77	0179	4.57
14.0	66.6	000000	000000	5.57	4.77	0179	4.57
15.0	66.6	000000	000000	5.57	4.77	0179	4.57
16.0	66.6	000000	000000	5.57	4.77	0179	4.57
17.0	66.6	000000	000000	5.57	4.77	0179	4.57
18.0	66.6	000000	000000	5.57	4.77	0179	4.57
19.0	66.6	000000	000000	5.57	4.77	0179	4.57
20.0	66.6	000000	000000	5.57	4.77	0179	4.57
21.0	66.6	000000	000000	5.57	4.77	0179	4.57
22.0	66.6	000000	000000	5.57	4.77	0179	4.57
23.0	66.6	000000	000000	5.57	4.77	0179	4.57
24.0	66.6	000000	000000	5.57	4.77	0179	4.57
25.0	66.6	000000	000000	5.57	4.77	0179	4.57
26.0	66.6	000000	000000	5.57	4.77	0179	4.57
27.0	66.6	000000	000000	5.57	4.77	0179	4.57
28.0	66.6	000000	000000	5.57	4.77	0179	4.57
29.0	66.6	000000	000000	5.57	4.77	0179	4.57
30.0	66.6	000000	000000	5.57	4.77	0179	4.57
31.0	66.6	000000	000000	5.57	4.77	0179	4.57
32.0	66.6	000000	000000	5.57	4.77	0179	4.57
33.0	66.6	000000	000000	5.57	4.77	0179	4.57
34.0	66.6	000000	000000	5.57	4.77	0179	4.57
35.0	66.6	000000	000000	5.57	4.77	0179	4.57
36.0	66.6	000000	000000	5.57	4.77	0179	4.57
37.0	66.6	000000	000000	5.57	4.77	0179	4.57
38.0	66.6	000000	000000	5.57	4.77	0179	4.57
39.0	66.6	000000	000000	5.57	4.77	0179	4.57
40.0	66.6	000000	000000	5.57	4.77	0179	4.57
41.0	66.6	000000	000000	5.57	4.77	0179	4.57
42.0	66.6	000000	000000	5.57	4.77	0179	4.57
43.0	66.6	000000	000000	5.57	4.77	0179	4.57
44.0	66.6	000000	000000	5.57	4.77	0179	4.57
45.0	66.6	000000	000000	5.57	4.77	0179	4.57
46.0	66.6	000000	000000	5.57	4.77	0179	4.57
47.0	66.6	000000	000000	5.57	4.77	0179	4.57
48.0	66.6	000000	000000	5.57	4.77	0179	4.57
49.0	66.6	000000	000000	5.57	4.77	0179	4.57

	DEPTH	TEMP.	SALIN
HUT NUM = 1	5.3	-1.60	30.47
HUT NUM = 2	736.3	0.22	34.88

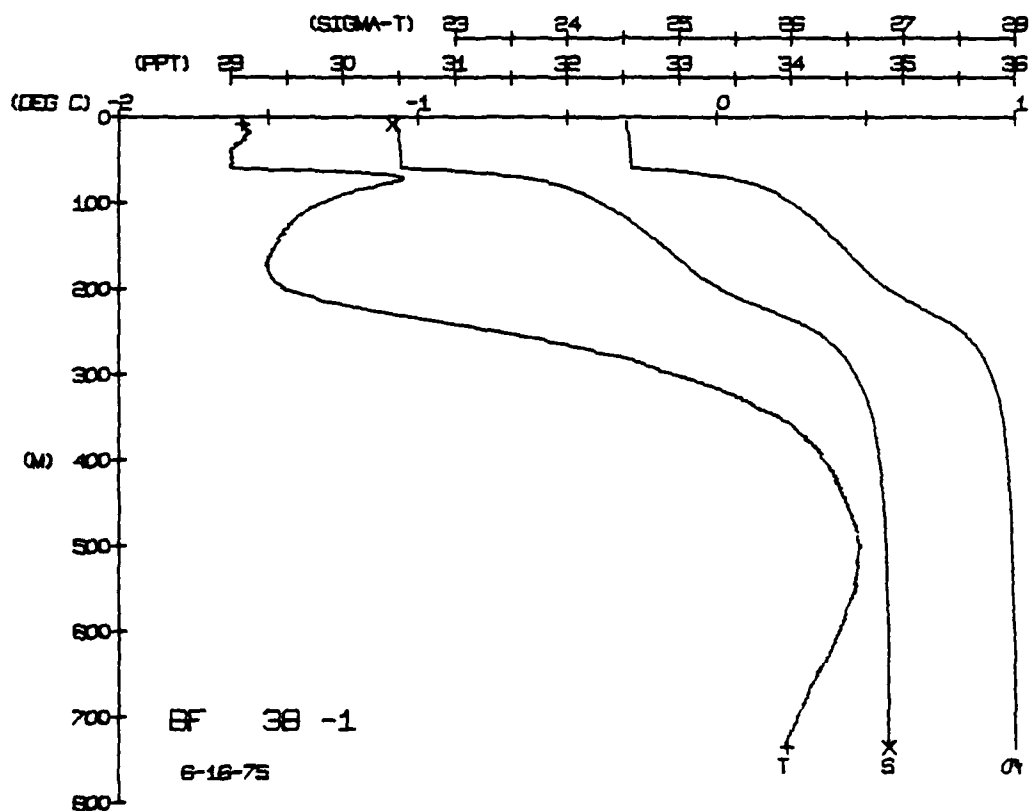
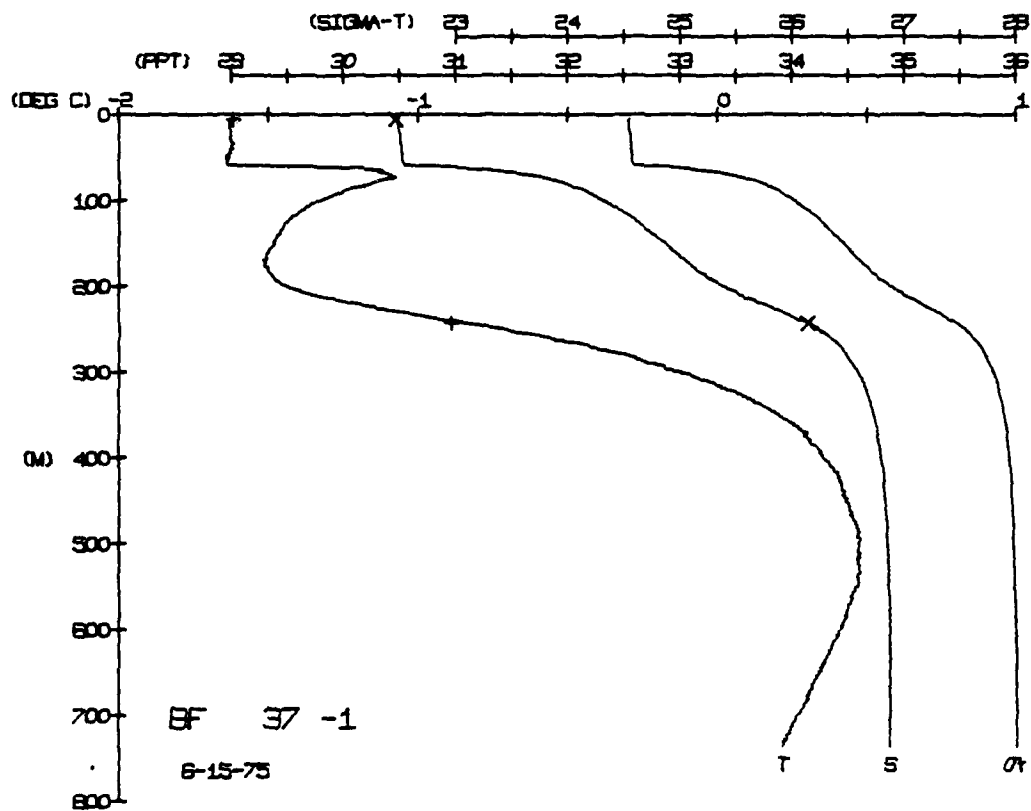
[illegible]

ROT NUM = 1	DEPTH	TEMP.	SALIN
ROT NUM = 2	5.4	-1.63	30.47
	487.2	0.49	34.85



BLUE FOX STATION 38(1) CTD 16/JUN/1975 1804 GMT CUDE = 3  
LAT = 76.8065N LNG = 146.4139W ITER = 1. LGFR = 2.  
AIR TEMP = -2.5 BARUM = 1023.9 WIND = 118.8 SPEED = 18.2

[illegible]



BLUE FOX STATION 39(1) CTD 17/JUN/1975 1800 GMT CODE = 3  
LAT = 76.8588N LNG = 146.6459W UFR = 1 LGER = 2  
AIR TEMP = -2.5 BARUM = 1015.7 WIND = 118.8 SPEED = 18.2

BLUE FOX STATION 40(1) CTD 18/JUN/1975 1803 GMT CODE = 3  
LAT = 76.8287N LNG = 147.0074W LTER = 0 LGER = 0  
AIR TEMP = -2.6 BAROM = 1019.3 WIND = 339.4 SPEED = 76.5

DEPTH	TEMP	PTEMP	SALIN	SIG T	SPVUL	DYNHT	SOUND
0	15.55	15.55	30.44	24.50	6.55	0.00	15.55
5	15.55	15.55	30.44	24.50	6.55	0.00	15.55
10	15.55	15.55	30.44	24.50	6.55	0.00	15.55
15	15.55	15.55	30.44	24.50	6.55	0.00	15.55
20	15.55	15.55	30.44	24.50	6.55	0.00	15.55
25	15.55	15.55	30.44	24.50	6.55	0.00	15.55
30	15.55	15.55	30.44	24.50	6.55	0.00	15.55
35	15.55	15.55	30.44	24.50	6.55	0.00	15.55
40	15.55	15.55	30.44	24.50	6.55	0.00	15.55
45	15.55	15.55	30.44	24.50	6.55	0.00	15.55
50	15.55	15.55	30.44	24.50	6.55	0.00	15.55
55	15.55	15.55	30.44	24.50	6.55	0.00	15.55
60	15.55	15.55	30.44	24.50	6.55	0.00	15.55
65	15.55	15.55	30.44	24.50	6.55	0.00	15.55
70	15.55	15.55	30.44	24.50	6.55	0.00	15.55
75	15.55	15.55	30.44	24.50	6.55	0.00	15.55
80	15.55	15.55	30.44	24.50	6.55	0.00	15.55
85	15.55	15.55	30.44	24.50	6.55	0.00	15.55
90	15.55	15.55	30.44	24.50	6.55	0.00	15.55
95	15.55	15.55	30.44	24.50	6.55	0.00	15.55
100	15.55	15.55	30.44	24.50	6.55	0.00	15.55
105	15.55	15.55	30.44	24.50	6.55	0.00	15.55
110	15.55	15.55	30.44	24.50	6.55	0.00	15.55
115	15.55	15.55	30.44	24.50	6.55	0.00	15.55
120	15.55	15.55	30.44	24.50	6.55	0.00	15.55
125	15.55	15.55	30.44	24.50	6.55	0.00	15.55
130	15.55	15.55	30.44	24.50	6.55	0.00	15.55
135	15.55	15.55	30.44	24.50	6.55	0.00	15.55
140	15.55	15.55	30.44	24.50	6.55	0.00	15.55
145	15.55	15.55	30.44	24.50	6.55	0.00	15.55
150	15.55	15.55	30.44	24.50	6.55	0.00	15.55
155	15.55	15.55	30.44	24.50	6.55	0.00	15.55
160	15.55	15.55	30.44	24.50	6.55	0.00	15.55
165	15.55	15.55	30.44	24.50	6.55	0.00	15.55
170	15.55	15.55	30.44	24.50	6.55	0.00	15.55
175	15.55	15.55	30.44	24.50	6.55	0.00	15.55
180	15.55	15.55	30.44	24.50	6.55	0.00	15.55
185	15.55	15.55	30.44	24.50	6.55	0.00	15.55
190	15.55	15.55	30.44	24.50	6.55	0.00	15.55
195	15.55	15.55	30.44	24.50	6.55	0.00	15.55
200	15.55	15.55	30.44	24.50	6.55	0.00	15.55
205	15.55	15.55	30.44	24.50	6.55	0.00	15.55
210	15.55	15.55	30.44	24.50	6.55	0.00	15.55
215	15.55	15.55	30.44	24.50	6.55	0.00	15.55
220	15.55	15.55	30.44	24.50	6.55	0.00	15.55
225	15.55	15.55	30.44	24.50	6.55	0.00	15.55
230	15.55	15.55	30.44	24.50	6.55	0.00	15.55
235	15.55	15.55	30.44	24.50	6.55	0.00	15.55
240	15.55	15.55	30.44	24.50	6.55	0.00	15.55
245	15.55	15.55	30.44	24.50	6.55	0.00	15.5

12  
31  
22  
22  
11  
11

	HOT NUM = 1	DEPTH	TEMP.	SALIN
		5.8	-1.54	30.37
		241.4	-1.03	33.97
	HOT NUM = 2			

30.37  
33.97

AD-A118 203

LAMONT-DOHERTY GEOLOGICAL OBSERVATORY PALISADES NY

F/6 8/10

ARCTIC ICE DYNAMICS JOINT EXPERIMENT 1975-1976. PHYSICAL OCEANO--ETC(U)

FEB 80 E BAUER, K HUNKINS, T O MANLEY

N00014-76-C-0004

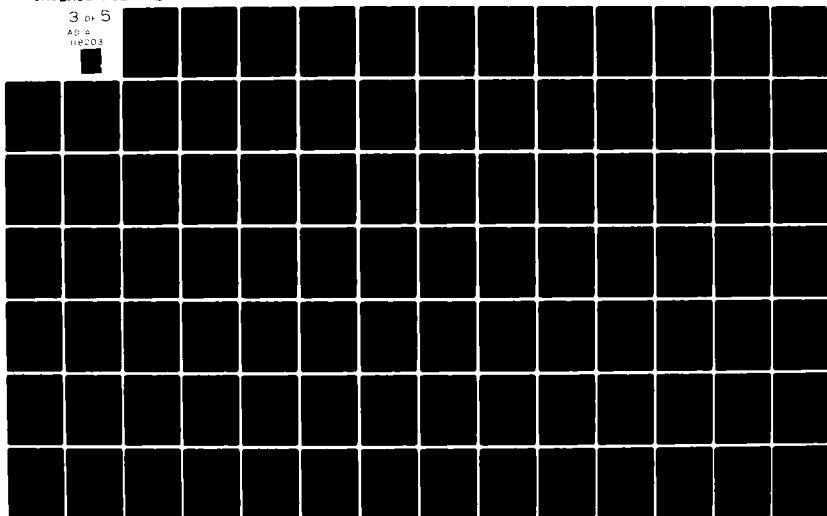
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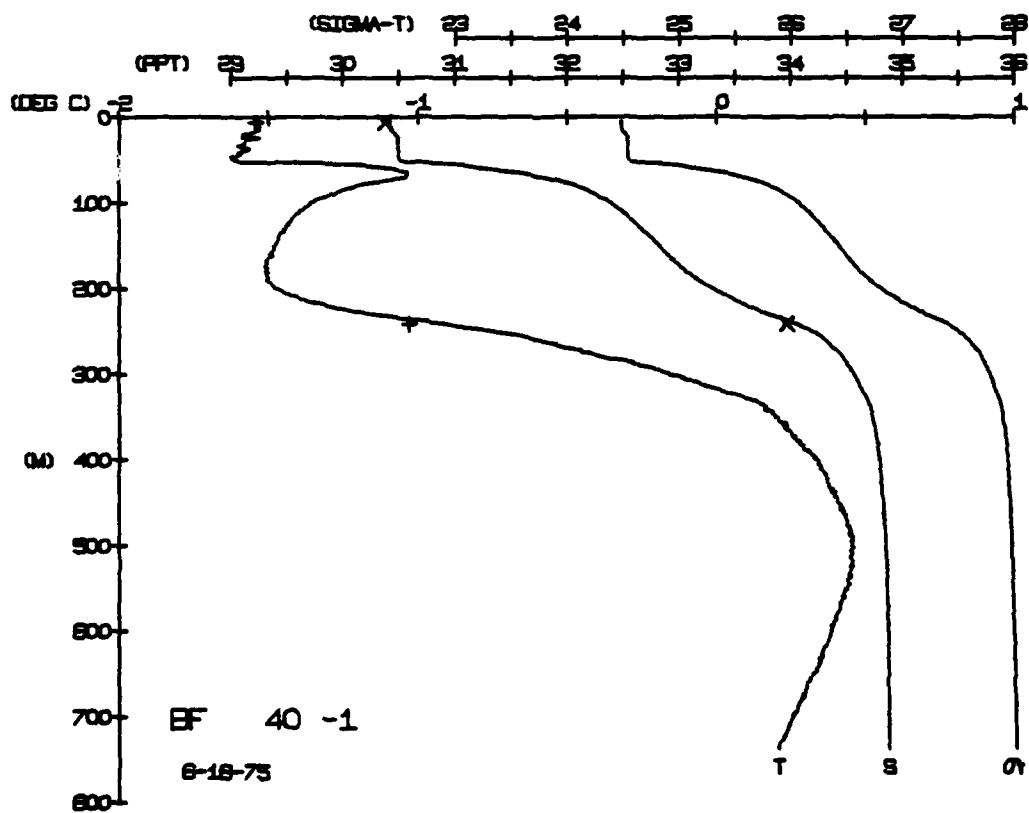
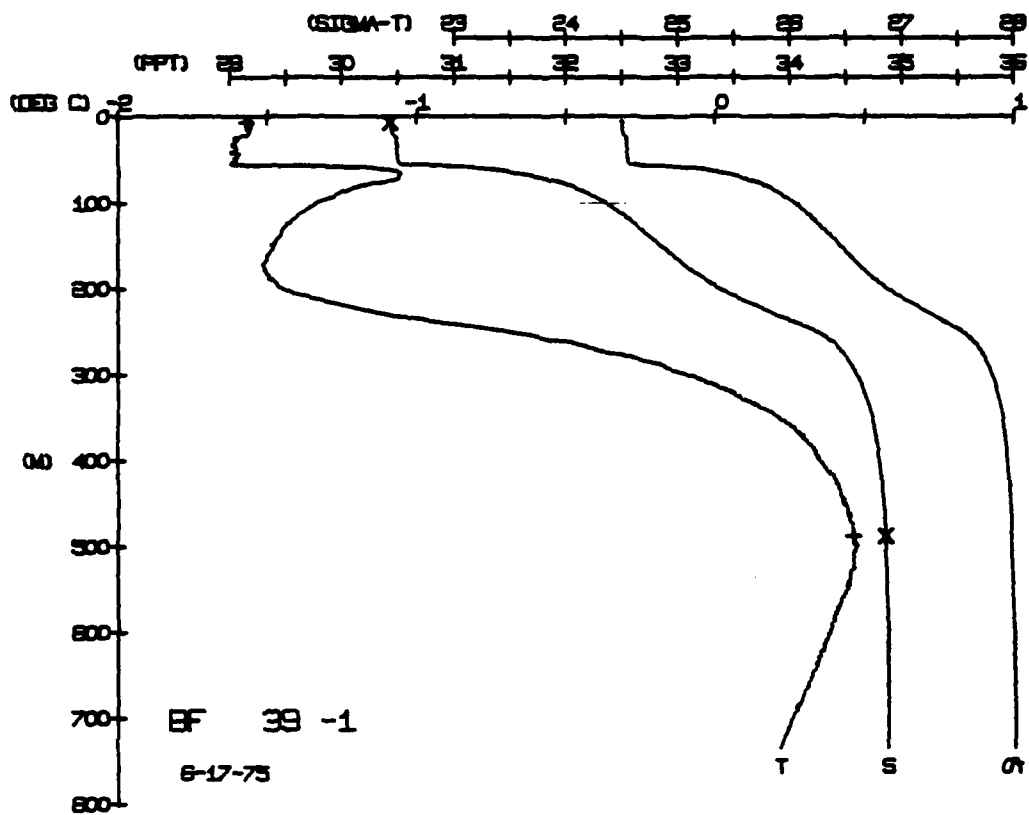
LDGO-CU-9-80

NL

3 of 5

AD-A  
118203







BLUE FOX STATION 42(1) CTD 20/JUN/1975 1801 GMT CODE = 3  
LAT = 76.7494N LNC = 147.2152W LTER = 0; LGRR = 0  
AIR TEMP = -5.4 BAROM = 1021.0 WIND = 335.5 SPEED = 13.5

[illegible]

ROUT NUM = 1	DEPTH	TEMP.	SALIN.
BUT NUM = 2	5.4	-1.59	30.41
	735.7	0.23	34.89

SOUND

DYHHT

SPVUL

SIG T

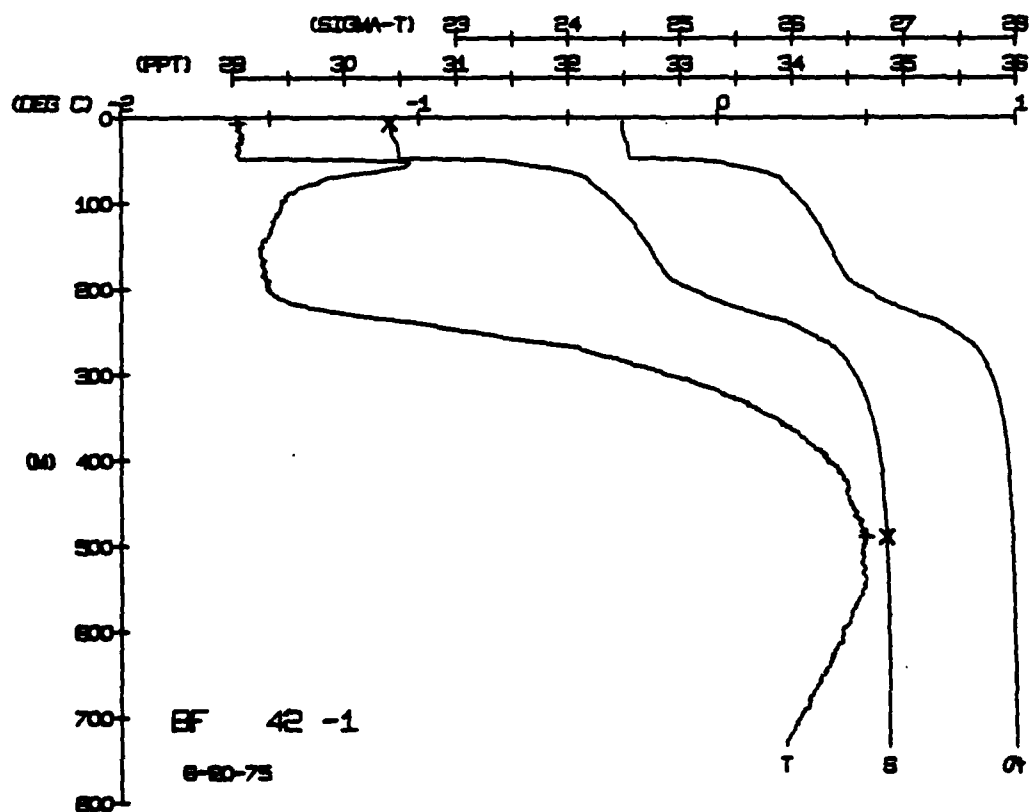
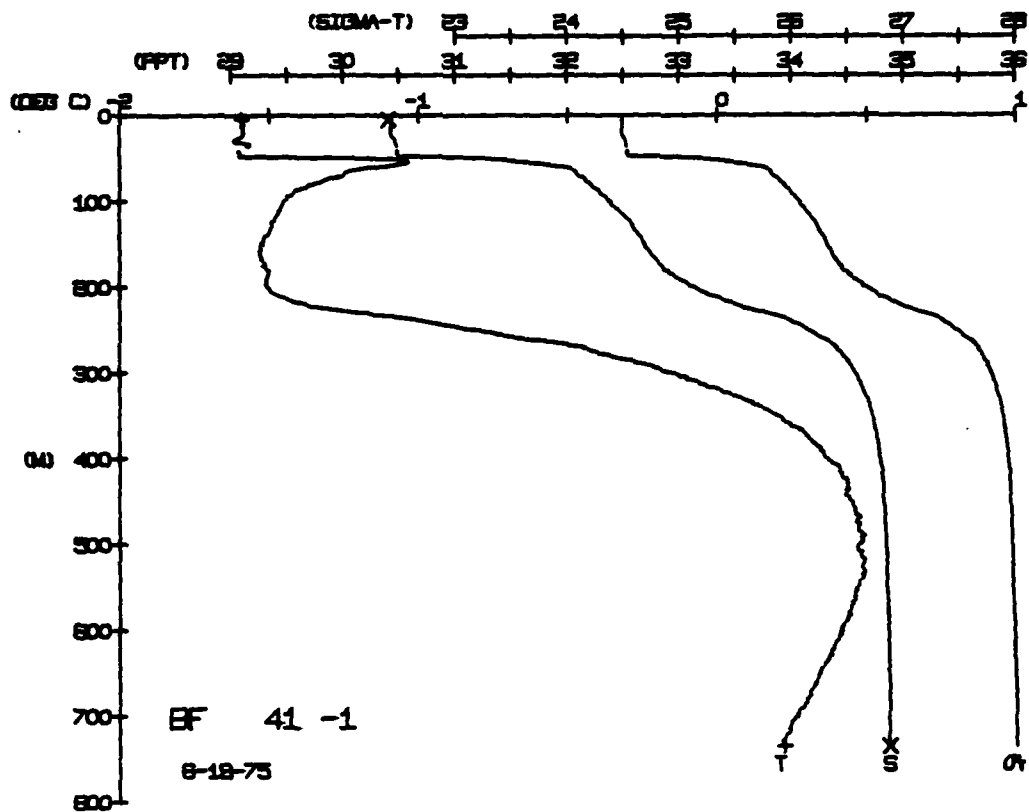
SALIN

PIEHP

TEMP

DEPTH

	DEPTH	TEMP.	SALIN.
BUT NUM = 1	5.6	-1.61	30.41
HOT NUM = 2	48.7	0.50	34.85



BLUE FOX STATION 44(1) CTD 22/JUN/1975 1805 GMT CODE = 3  
LAT = 76.8067N LNG = 147.2366W LTER = 51 LGR = 71  
AIR TEMP = 0.5 BARUM = 1008.4 WIND = 182.7 SPEED = 30.4

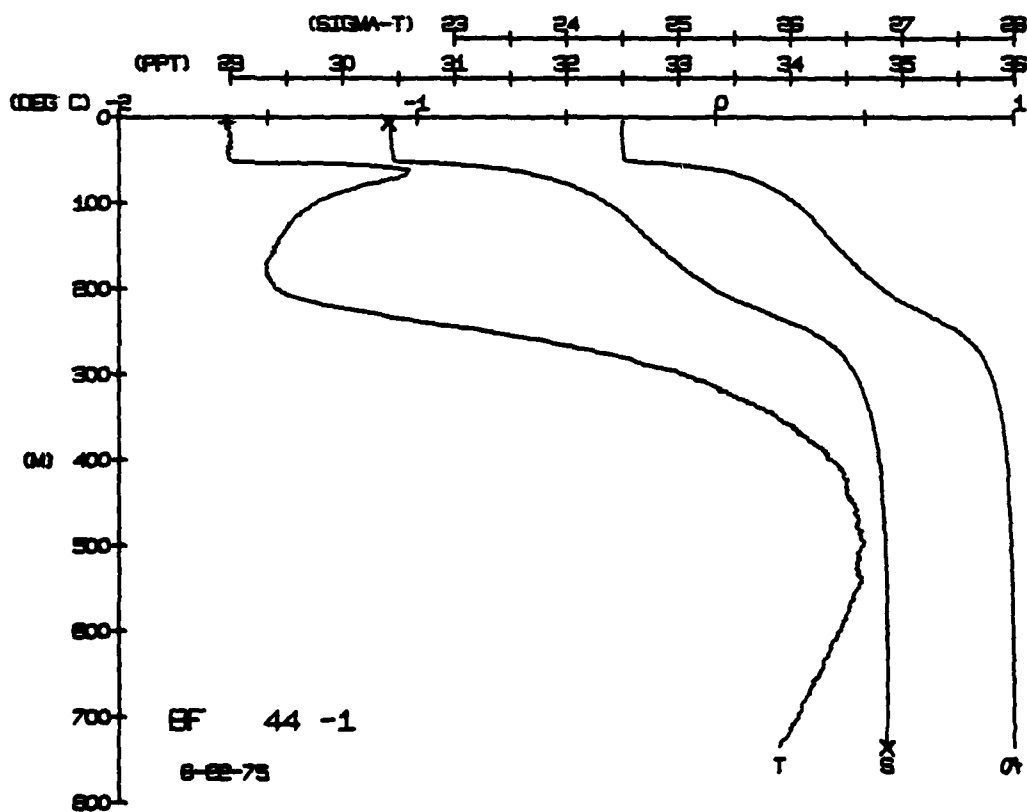
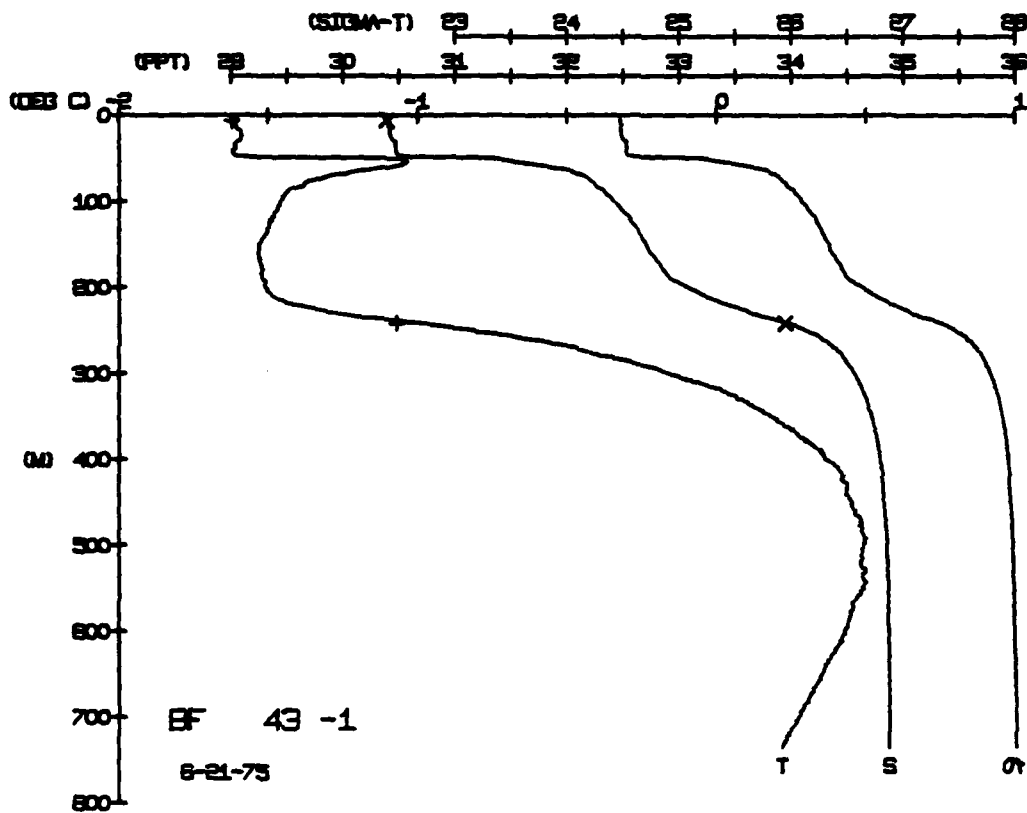
[illegible]

	DEPTH	TEMP.	SALIN.
BUT NUM = 1	5.8	-1.62	30.40
BUT NUM = 2	241.4	-1.07	33.95

DEPT#	HOT NUM = 1	HOT NUM = 2
5.8		
735.0		

TEMP. -1.64

**SALIN**  
**30-42**  
**34-R8**

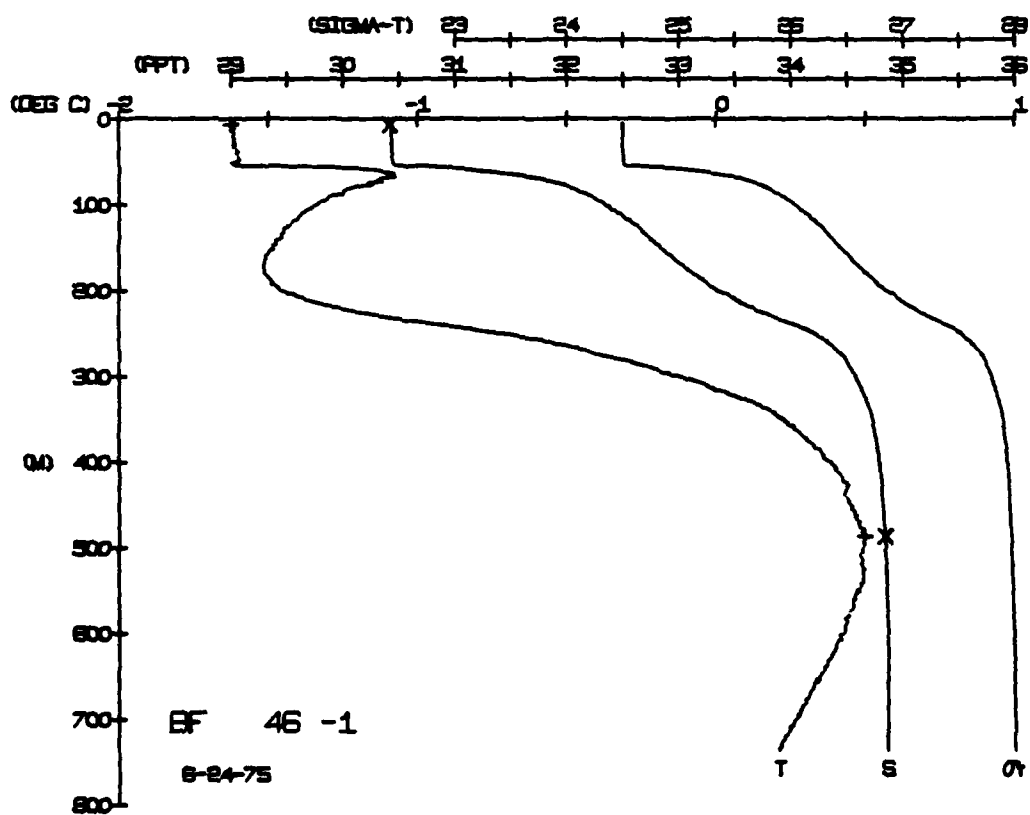
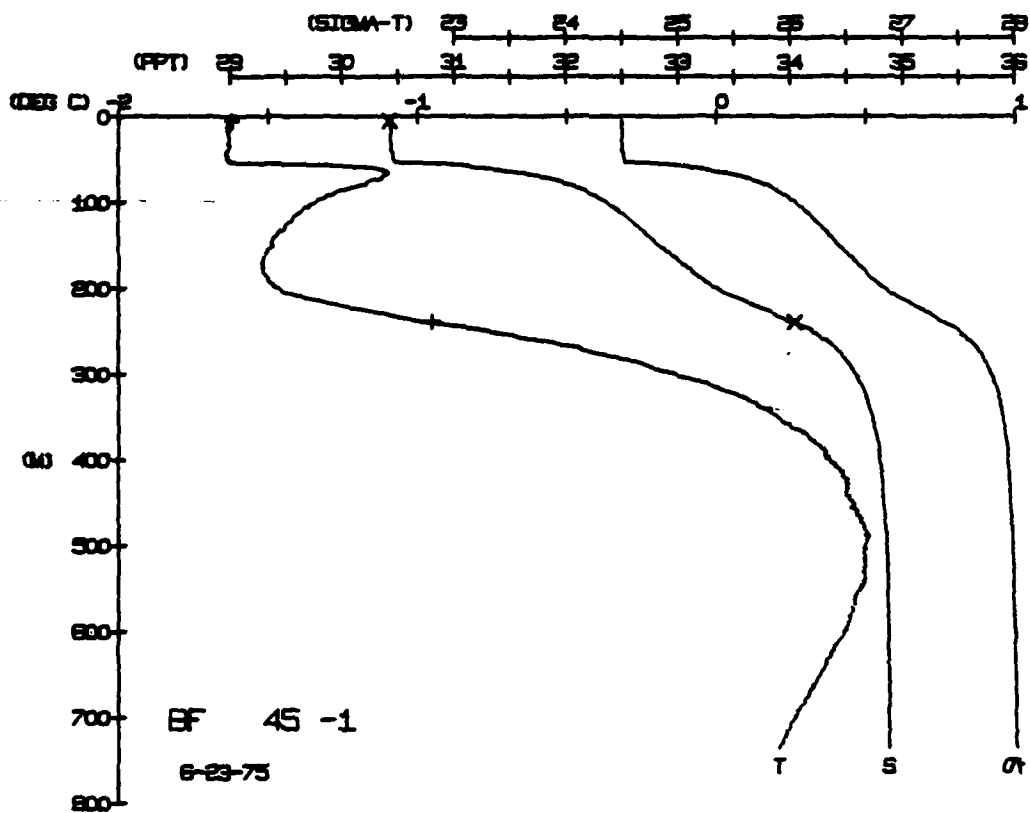


ULPTH TEMP PTMP SALIN SIG T SPVUL DYNHT SOUND

DEPTH	TEMP	PTEMP	SALIN	SIG T	SPVOL	DYNHT	SOUND
10	10.0	10.0	35.0	1.020	1.0	10.0	10.0
20	10.0	10.0	35.0	1.020	1.0	10.0	10.0
30	10.0	10.0	35.0	1.020	1.0	10.0	10.0
40	10.0	10.0	35.0	1.020	1.0	10.0	10.0
50	10.0	10.0	35.0	1.020	1.0	10.0	10.0
60	10.0	10.0	35.0	1.020	1.0	10.0	10.0
70	10.0	10.0	35.0	1.020	1.0	10.0	10.0
80	10.0	10.0	35.0	1.020	1.0	10.0	10.0
90	10.0	10.0	35.0	1.020	1.0	10.0	10.0
100	10.0	10.0	35.0	1.020	1.0	10.0	10.0
110	10.0	10.0	35.0	1.020	1.0	10.0	10.0
120	10.0	10.0	35.0	1.020	1.0	10.0	10.0
130	10.0	10.0	35.0	1.020	1.0	10.0	10.0
140	10.0	10.0	35.0	1.020	1.0	10.0	10.0
150	10.0	10.0	35.0	1.020	1.0	10.0	10.0
160	10.0	10.0	35.0	1.020	1.0	10.0	10.0
170	10.0	10.0	35.0	1.020	1.0	10.0	10.0
180	10.0	10.0	35.0	1.020	1.0	10.0	10.0
190	10.0	10.0	35.0	1.020	1.0	10.0	10.0
200	10.0	10.0	35.0	1.020	1.0	10.0	10.0
210	10.0	10.0	35.0	1.020	1.0	10.0	10.0
220	10.0	10.0	35.0	1.020	1.0	10.0	10.0
230	10.0	10.0	35.0	1.020	1.0	10.0	10.0
240	10.0	10.0	35.0	1.020	1.0	10.0	10.0
250	10.0	10.0	35.0	1.020	1.0	10.0	10.0
260	10.0	10.0	35.0	1.020	1.0	10.0	10.0
270	10.0	10.0	35.0	1.020	1.0	10.0	10.0
280	10.0	10.0	35.0	1.020	1.0	10.0	10.0
290	10.0	10.0	35.0	1.020	1.0	10.0	10.0
300	10.0	10.0	35.0	1.020	1.0	10.0	10.0
310	10.0	10.0	35.0	1.020	1.0	10.0	10.0
320	10.0	10.0	35.0	1.020	1.0	10.0	10.0
330	10.0	10.0	35.0	1.020	1.0	10.0	10.0
340	10.0	10.0	35.0	1.020	1.0	10.0	10.0
350	10.0	10.0	35.0	1.020	1.0	10.0	10.0
360	10.0	10.0	35.0	1.020	1.0	10.0	10.0
370	10.0	10.0	35.0	1.020	1.0	10.0	10.0
380	10.0	10.0	35.0	1.020	1.0	10.0	10.0
390	10.0	10.0	35.0	1.020	1.0	10.0	10.0
400	10.0	10.0	35.0	1.020	1.0	10.0	10.0
410	10.0	10.0	35.0	1.020	1.0	10.0	10.0
420	10.0	10.0	35.0	1.020	1.0	10.0	10.0
430	10.0	10.0	35.0	1.020	1.0	10.0	10.0
440	10.0	10.0	35.0	1.020	1.0	10.0	10.0
450	10.0	10.0	35.0	1.020	1.0	10.0	10.0
460	10.0	10.0	35.0	1.020	1.0	10.0	10.0
470	10.0	10.0	35.0	1.020	1.0	1	

DEPTH	TEMP.	SALIN
5.6	-1.62	30.42
240.1	-0.95	34.04

DEPTH	TEMP.	SALIN
BUT NUM = 1	-1.63	30.42
BUT NUM = 2	6.3	34.85
BUT NUM = 3	487.0	



BLUE FOX STATION 48(1) CTD 26/JUN/1975 1806 GMT CODE = 3  
LAT = 76.8068N LNC = 147.1671W LTER = 110 LGER = 118  
AIR TEMP = -0.3 BARUM = 1018.4 WIND = 03.4 SPEED = 23!  
1

SOUND

SOUND

DIMT

DIMT

SPUL

SPUL

SIG I

SIG I

SALIN

SALIN

TEMP

TEMP

DEPTH

DEPTH

DEPTH	TEMP.	SALIN.
4.9	-1.63	30.42
735.0	0.23	34.88

**SOUND**

SOUND

**DYHNT**

DYHNT

**SPVOL**

SPVOL

**SIG T**

SIG T

**BALIN**

BALIN

**PTEMP**

PTEMP

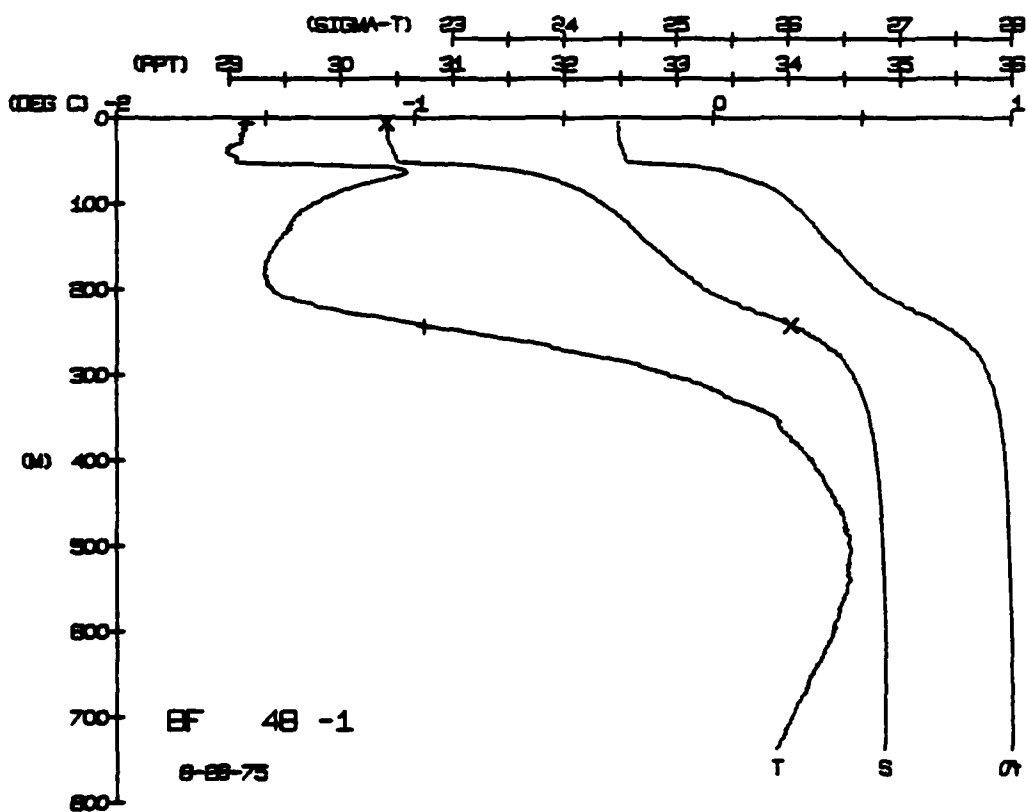
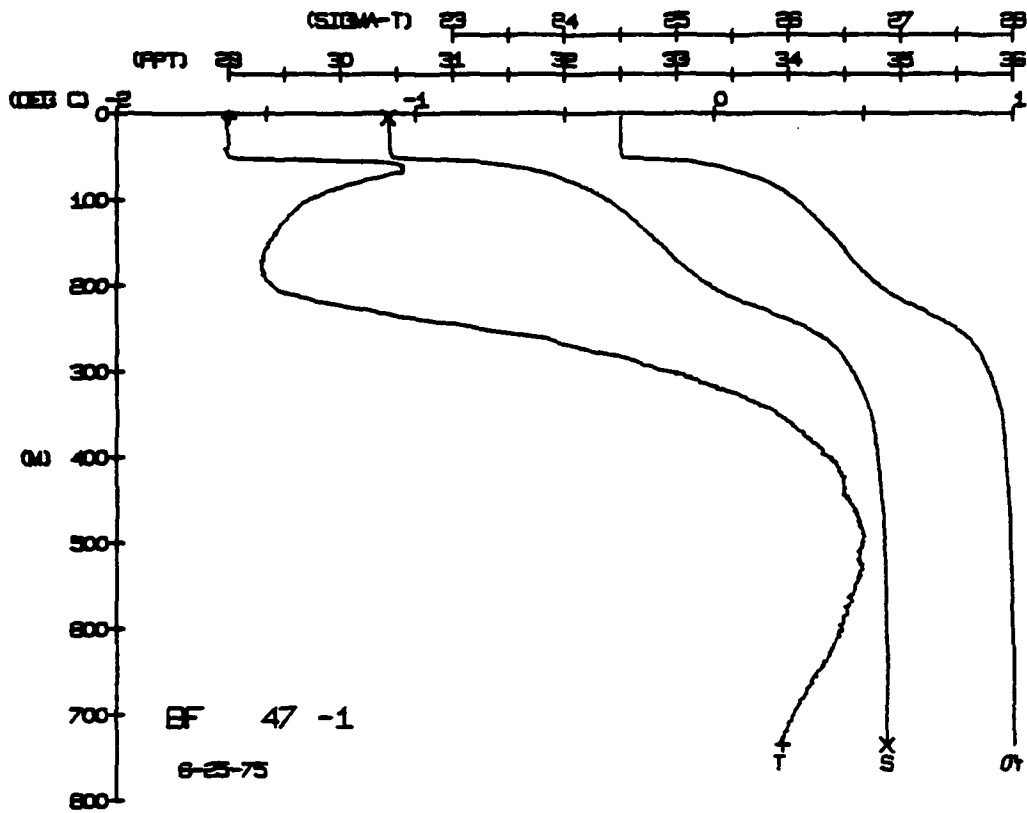
**TMP**

TMP

**DEPTH**

DEPTH

	DEPTH	TEMP.	SALIN
BOT NUM = 1	6.3	-1.57	30.42
RTI NUM = 2	242.6	-0.97	34.03





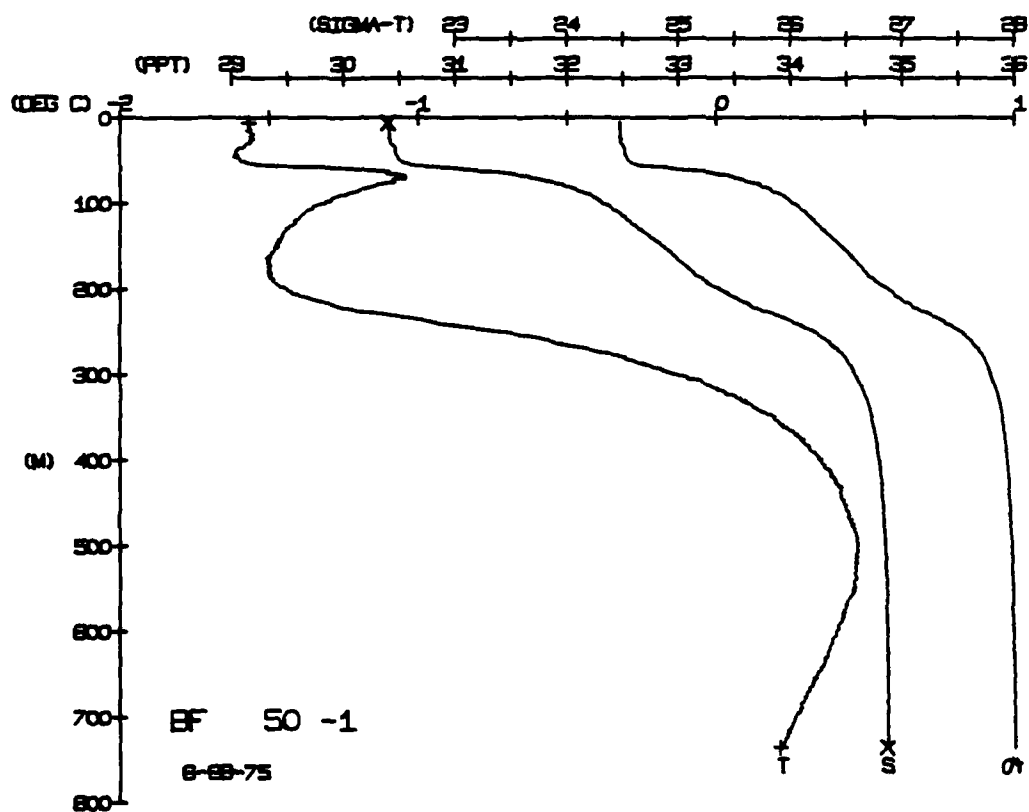
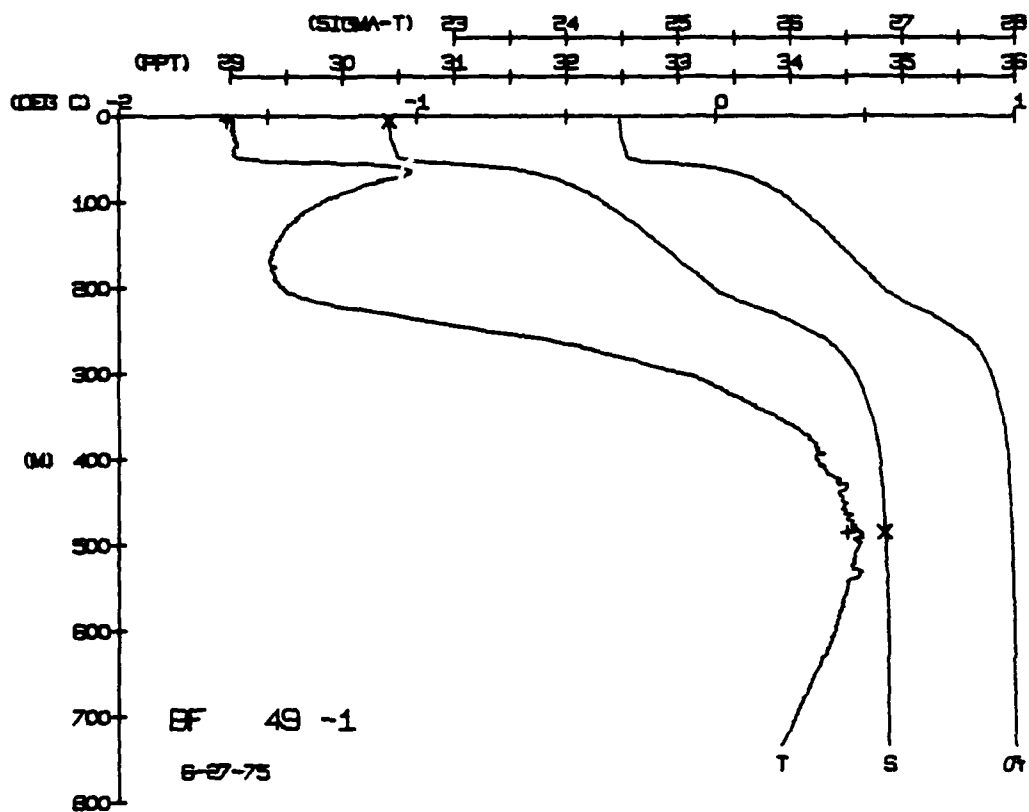
BLUE FOX STATION 50(1) CTD 2R/JUN/1975 1800 GMT CODE = 3  
LAT = 76.8425N LNG = 146.9541W LTER = 0 LGR = 0  
AIR TEMP = 0.3 BAROM = 1002.0 WIND = 241.9 SPEED = 51.9

DEPTH	TEMP	PTEMP	SALIN	SIG T	SPVUL	DINH7	SOUND
0.55	19.55	19.55	35.25	1.00	1.00	0.00	0.00
1.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
1.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
2.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
2.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
3.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
3.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
4.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
4.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
5.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
5.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
6.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
6.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
7.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
7.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
8.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
8.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
9.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
9.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
10.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
10.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
11.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
11.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
12.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
12.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
13.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
13.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
14.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
14.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
15.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
15.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
16.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
16.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
17.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
17.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
18.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
18.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
19.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
19.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
20.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
20.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
21.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
21.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
22.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
22.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
23.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
23.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
24.00	19.55	19.55	35.25	1.00	1.00	0.00	0.00
24.50	19.55	19.55	35.25	1.00	1.00	0.00	0.00
25.00	19.55						

WUT NUM	DEPTH	TEMP.	SALIN
1	5.3	-1.64	30.41
2	45.5	0.44	34.84

[illegible]

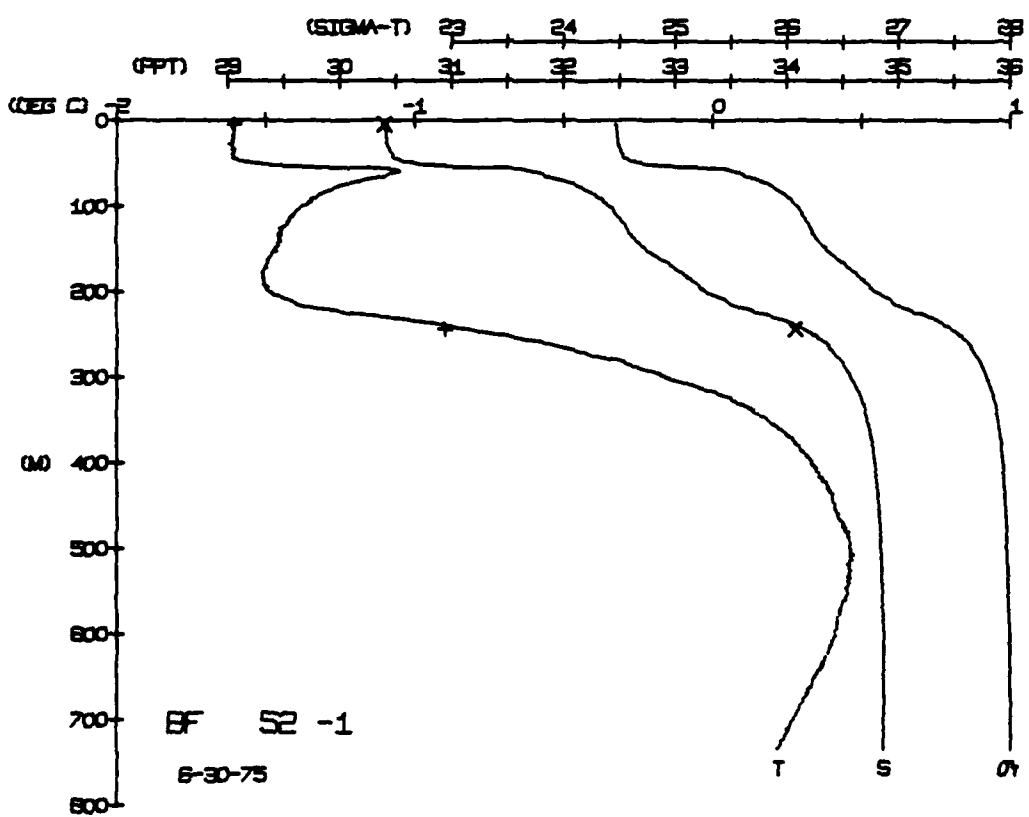
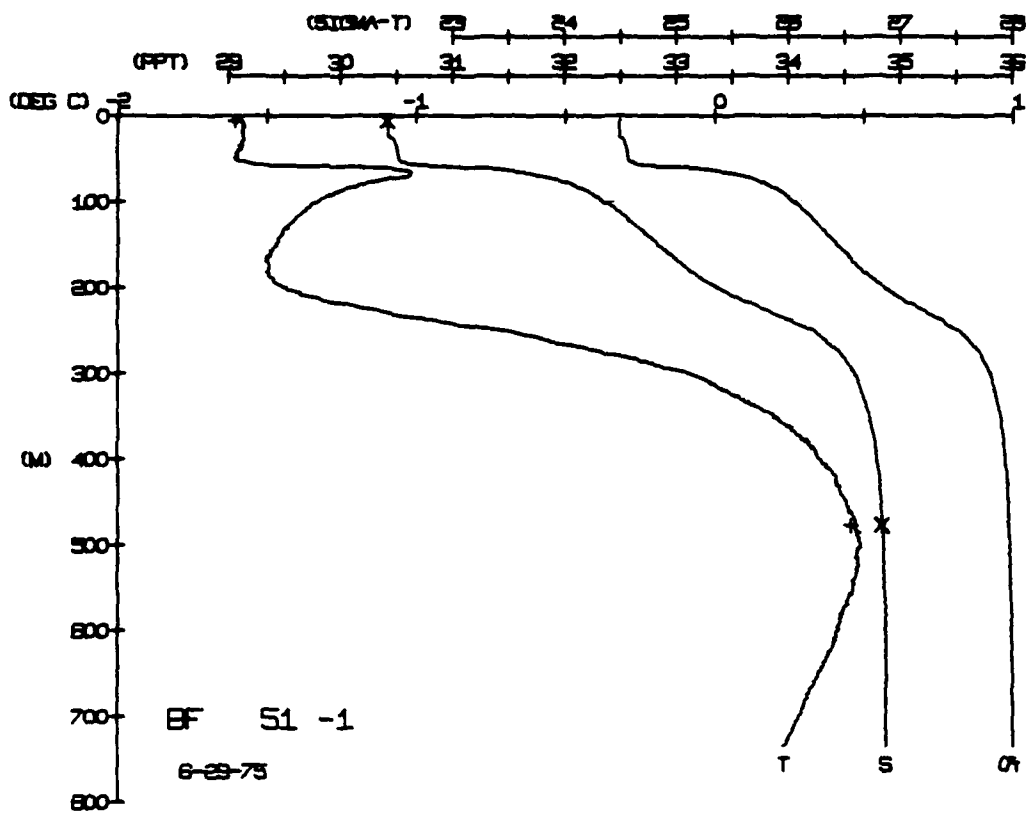
	DEPTH	TEMP.	SALIN.
BOT NUM = 1	5.6	-1.57	30.40
HOT NUM = 2	735.0	0.22	34.88



BLUE FOX STATION 52(1) CTD 30/JUN/1975 1802 GMT CODE = 3  
LAT = 76.8866N LNC = 146.4812W I.TER = 203. LGER = 200.  
AIR TEMP = HARUM = 994.6 WIND = SPEED =

[illegible]

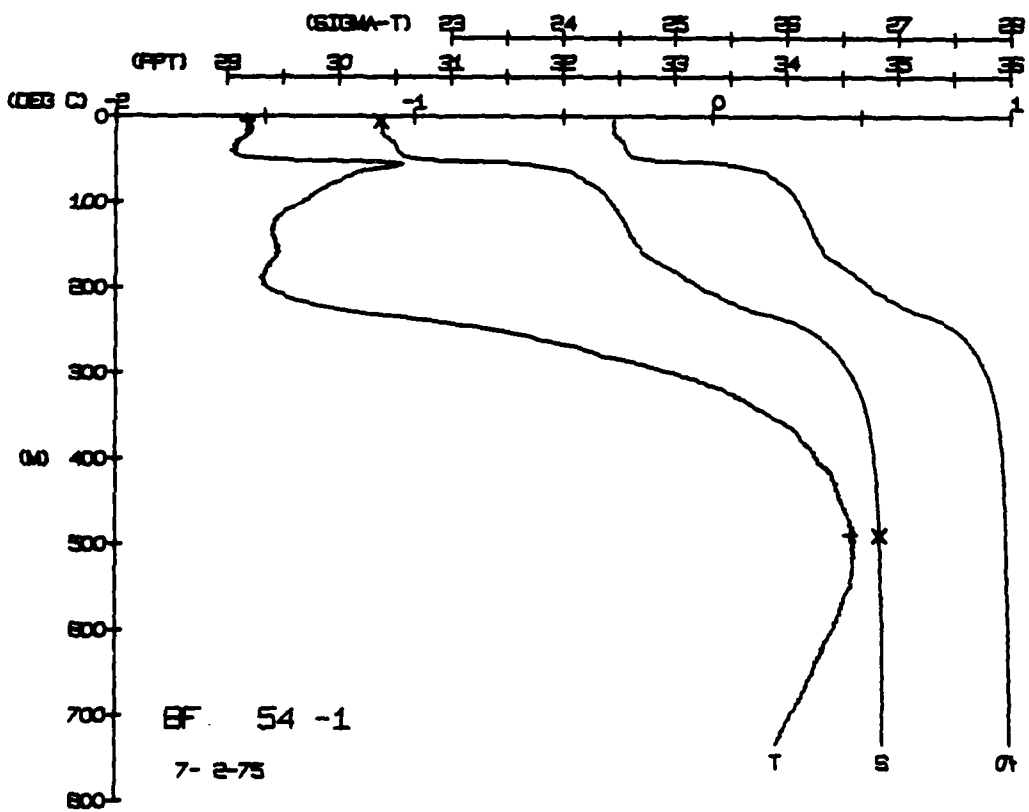
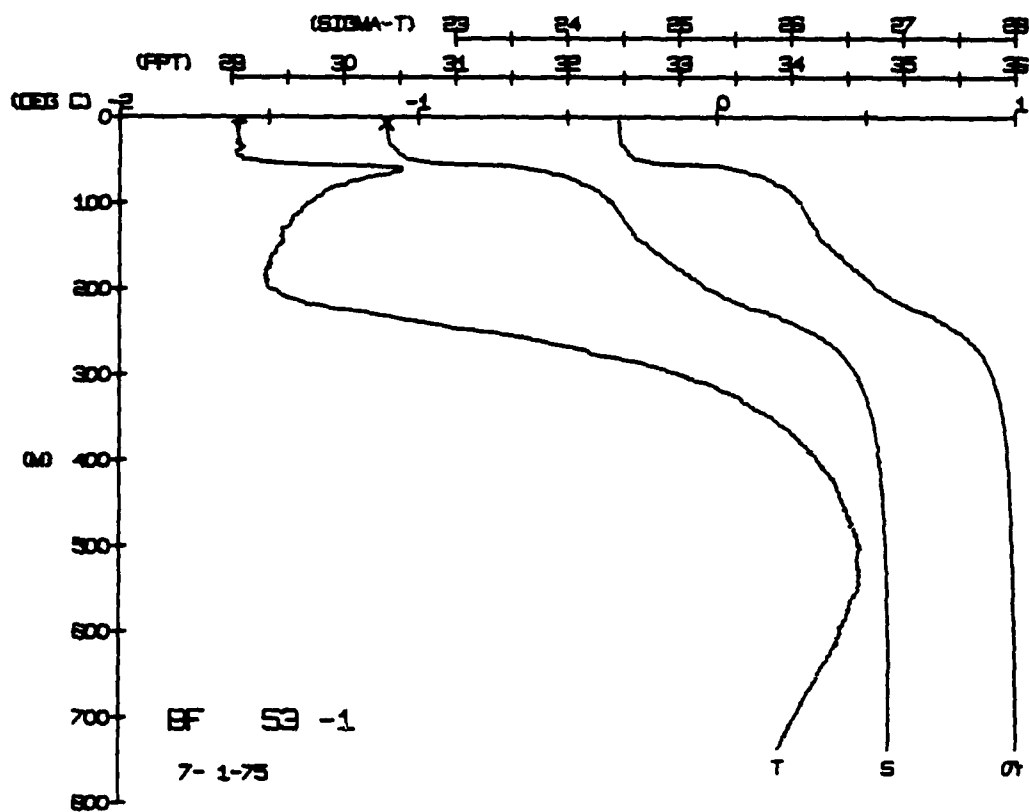
HOT NUM = 1	DEPTH	TEMP.	SALIN
HOT NUM = 2	4.6	-1.61	30.40
	243.7	-0.90	34.08



BLUE FOX STATION 54(1) CTD 2/JUL/1975 1000 GMT CODE = 3  
LAY = 76.8000N LNG = 146.0918W LTER = 74. LGER = 95.  
AIR TEMP = HAHUM = 1005.0 WIND = SPEED =

[illegible]

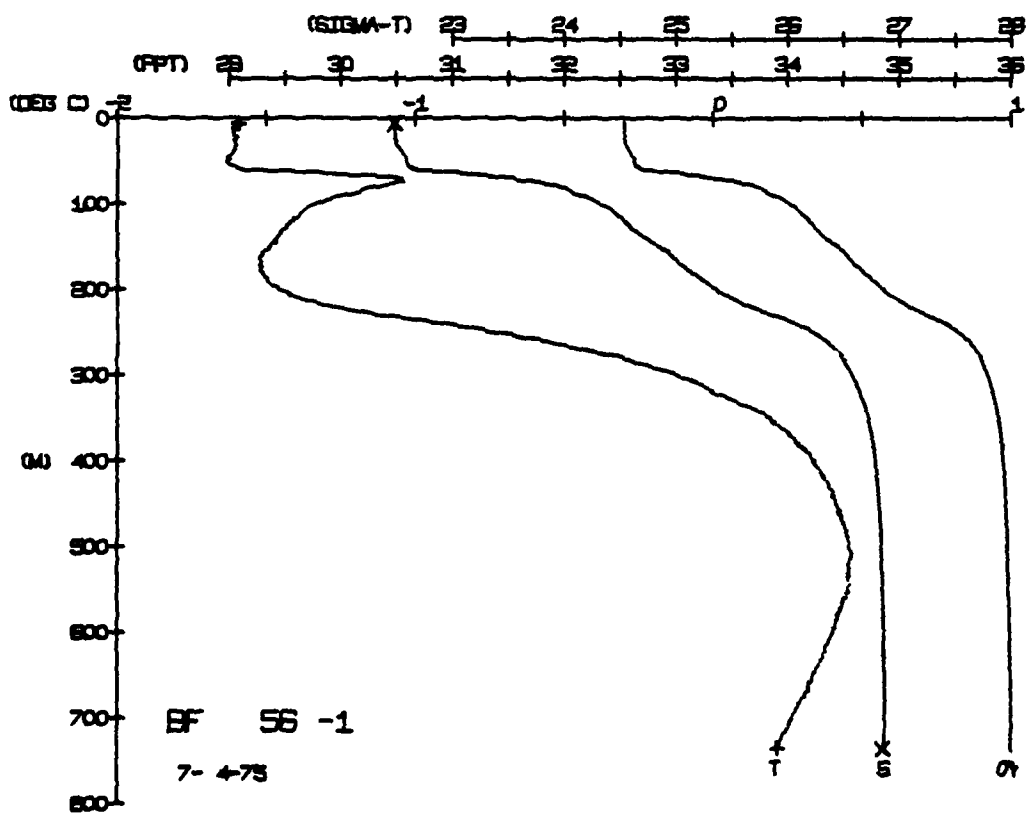
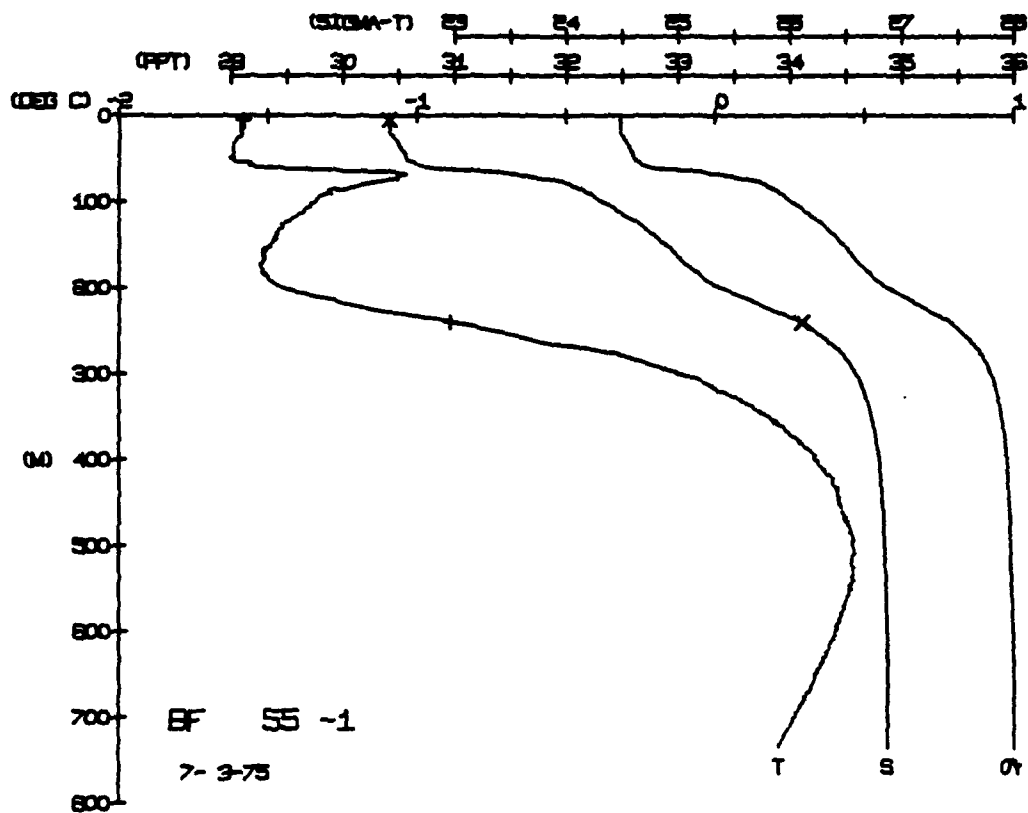
HUT NUM = 1	DEPTH	TEMP.	SALIN.
HOT NUM = 2	49.7	-1.56	30.37
	48.7	0.47	34.85



BLUE FOX STATION 56(1) CTD 4/JUL/1975 1803 GMT CODE = 3  
LAT = 76.8771N LNG = 145.3138W LTER = 1 LGRR = 1  
AIR TEMP = 0.6 BAROM = 998.6 WIND = 265.2 SPEED = 63.8

[illegible]

	DEPTH	TEMP.	SALIN
BOI NUM = 1	6.0	-1.60	30.48
RUT NUM = 2	734.2	0.22	34.67

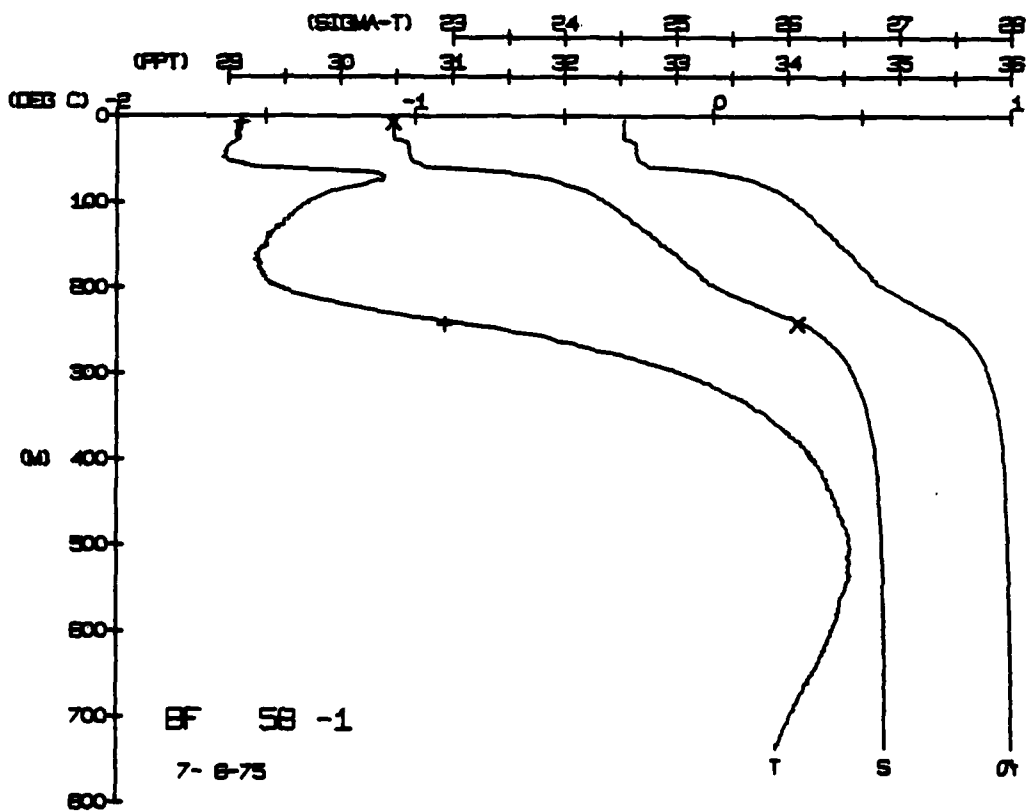
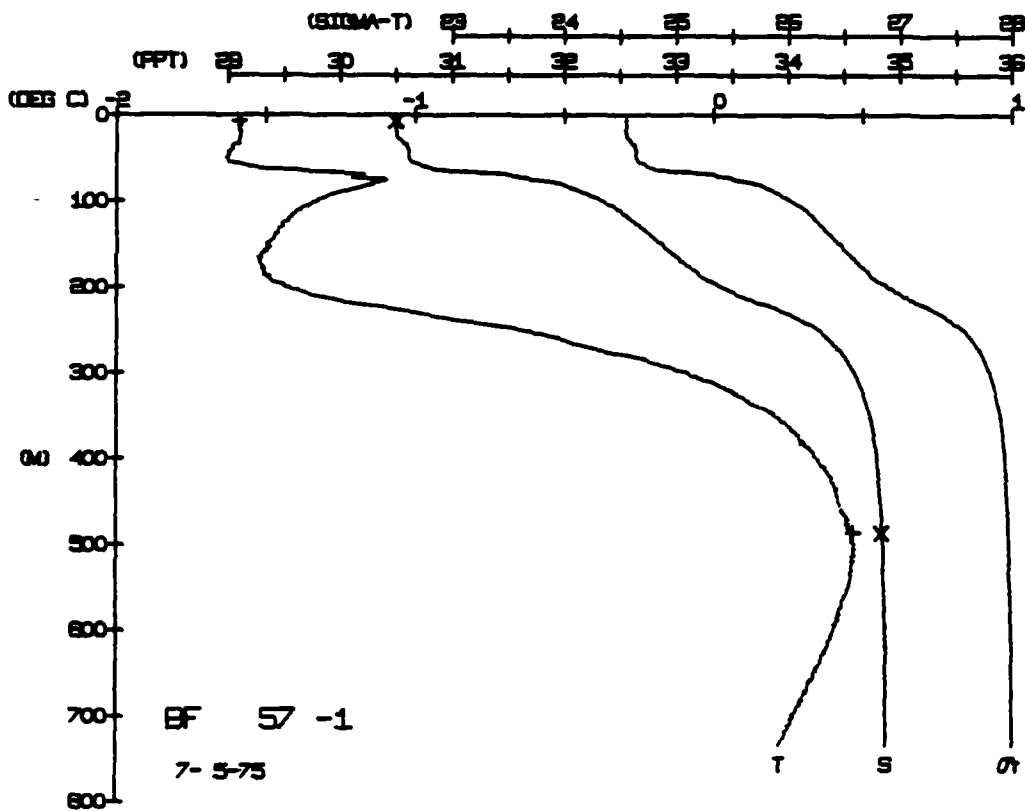




BLUE FOX STATION 57(1) CTD 5/JUL/1975 1802 GMT CODE = 3  
LAT = 76.7851N LNC = 144.8892W LTER = 397; LGR = 455;  
AIR TEMP = 0.6 BAROM = 1005.2 WIND = 265.2 SPEED = 63.8

SOUND	
SOUND	
DTHHT	
DTHHT	
SPVUL	
SPVUL	
SIG I	
SIG I	
SALIN	
SALIN	
PTEMP	
PTEMP	
TMP	
TMP	
UAPN	
UAPN	

	DEPTH	TEMP.	SALIN
BUT NUM = 1	6.7	-1.59	30.49
BUT NUM = 2	485.5	0.47	34.84



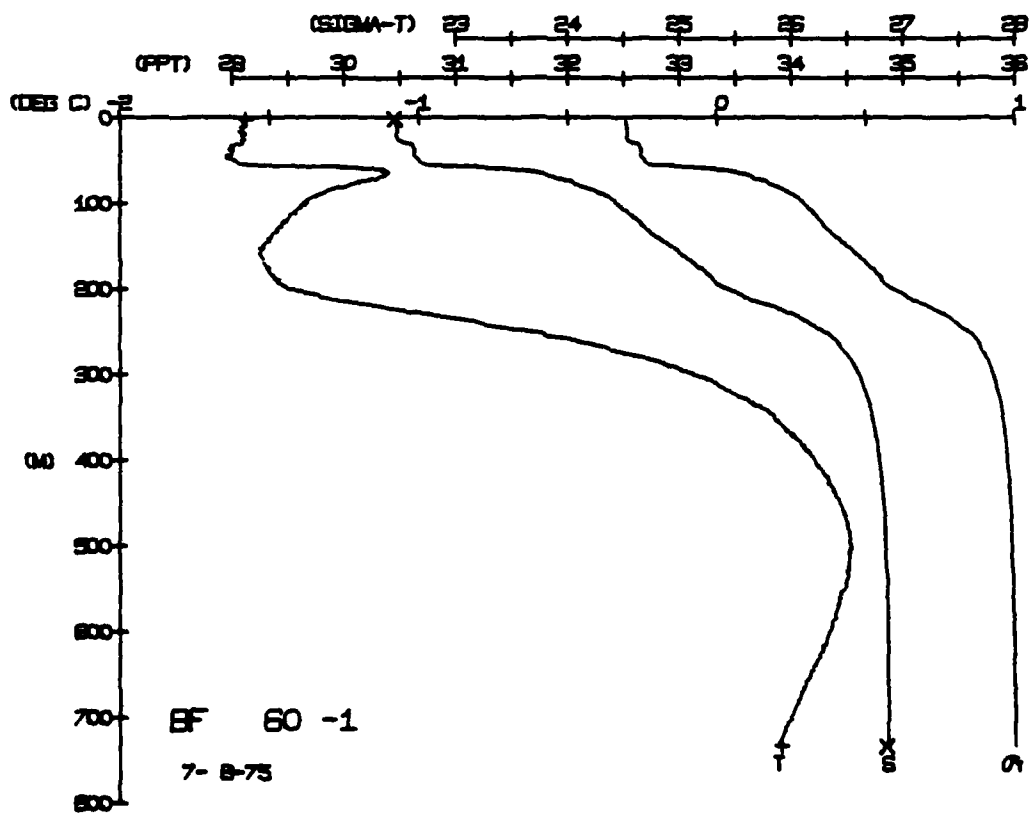
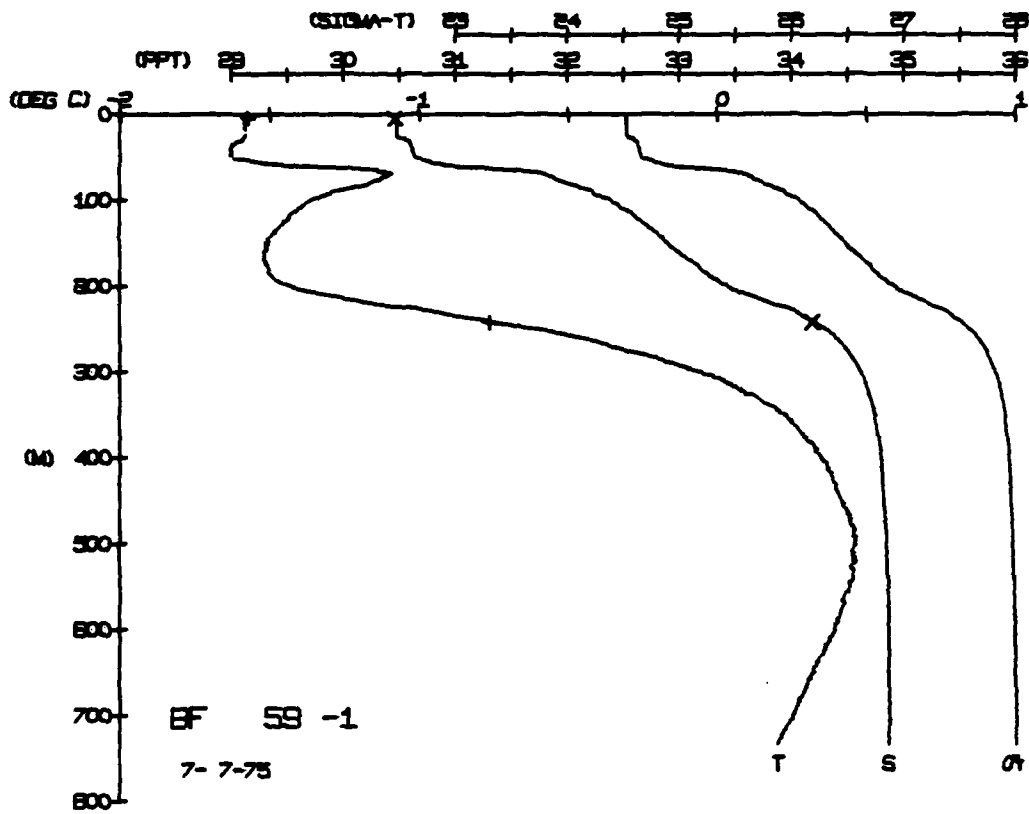
BLUE FOX STATION 60(1) CTD 8/JUL/1975 1008 GMT CODE = 1  
LAT = 76.6651N LNG = 143.9035W LTER = 0. LGER = 2.  
AIR TEMP = 10.2.8 WIND = SPEED =

BLUE FOX STATION 59(1) CTD 7/JUL/1975 1800 GMT CODE = 3  
LAT = 76.7218N LNG = 144.1455W LTER = 369 LGER = 440  
AIR TEMP = 0.8 BAROM = 1002.0 WIND = 206.2 SPEED = 39.3

[illegible][illegible]

DEPTH	TEMP.	SAILIN
1	-1.58	30.45
2	0.22	34.87

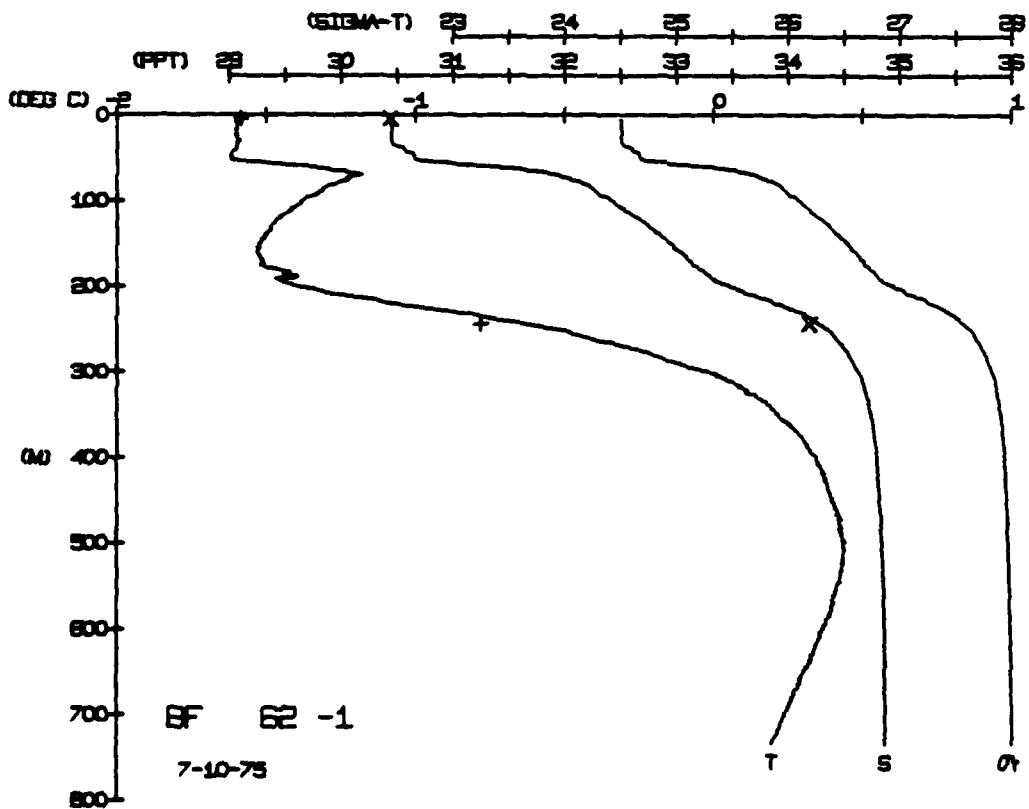
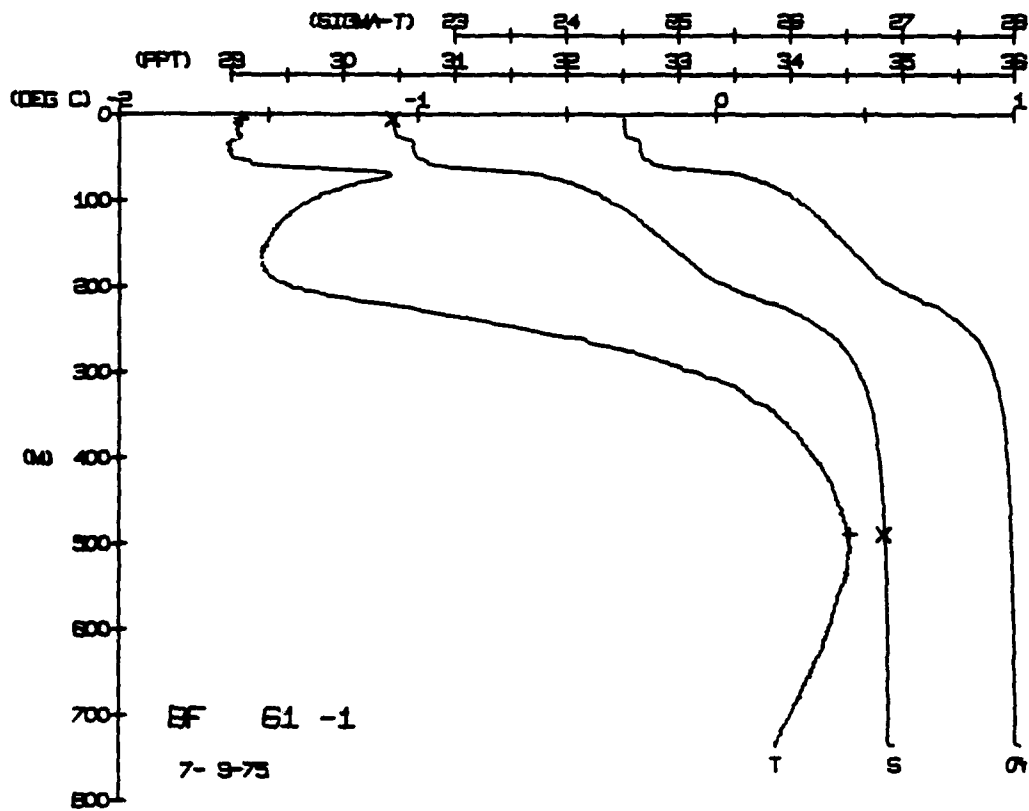
	DEPTH	TEMP.	SALIN.
BUT NUM = 1	4.9	-1.57	30.46
BUT NUM = 2	242.3	-0.76	34.19



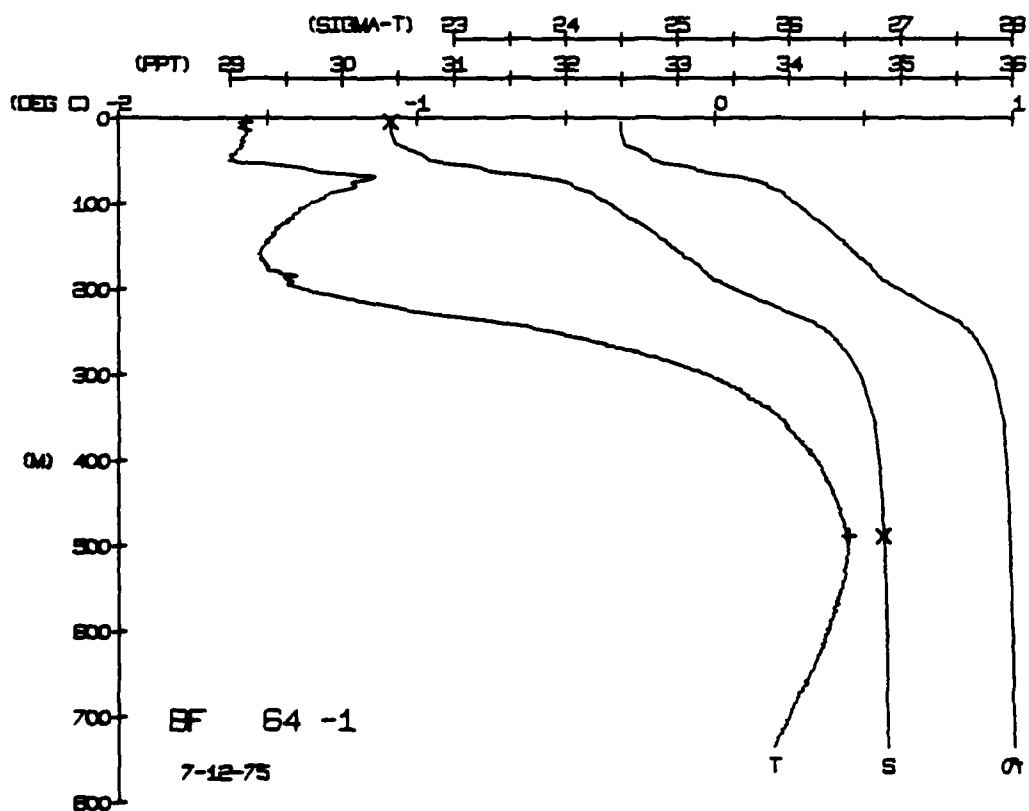
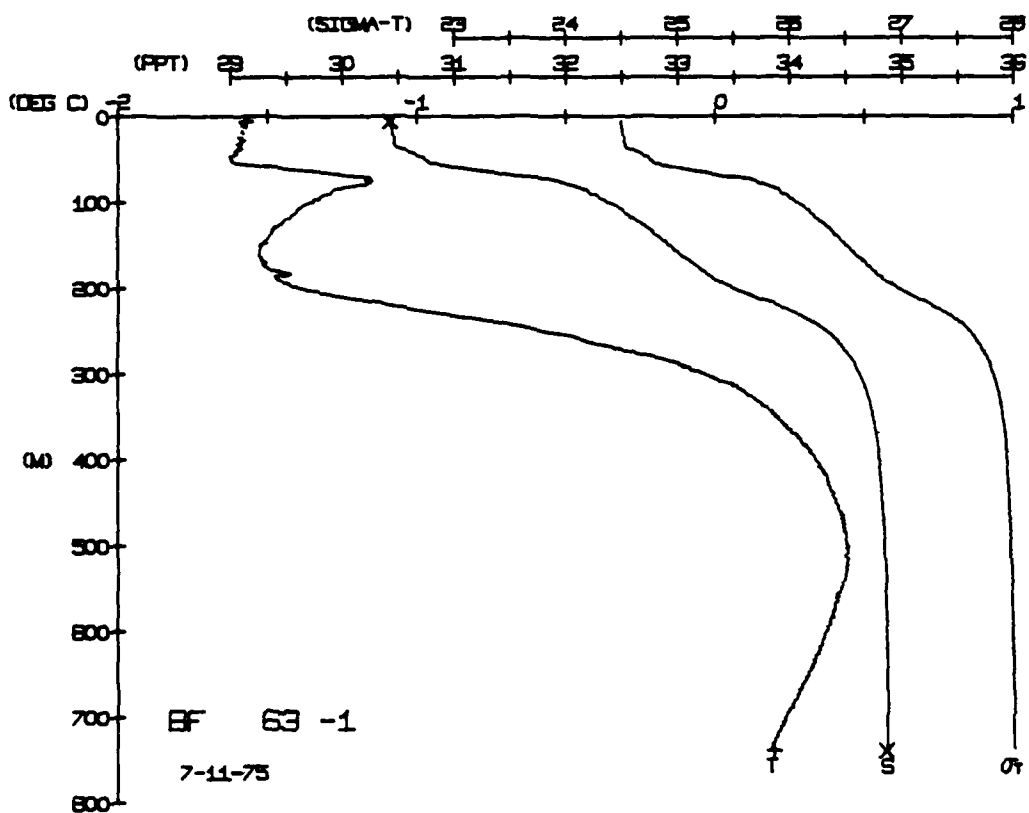
BLUE FOX STATION 62(1) CID 10/JUL/1975 1809 GMT CODE = 3  
LAT = 76.6478N LNC = 143.0397W LTER = 0. I.G.R. = 0.  
AIR TEMP = 0.6 BARUM = 1007.6 WIND = 259.3 SPEED = 69.4

[illegible]

	DEPTH	TEMP.	SALIN.
BUT NUM = 1	3.7	-1.59	30.44
HOT NUM = 2	243.2	-0.78	34.20

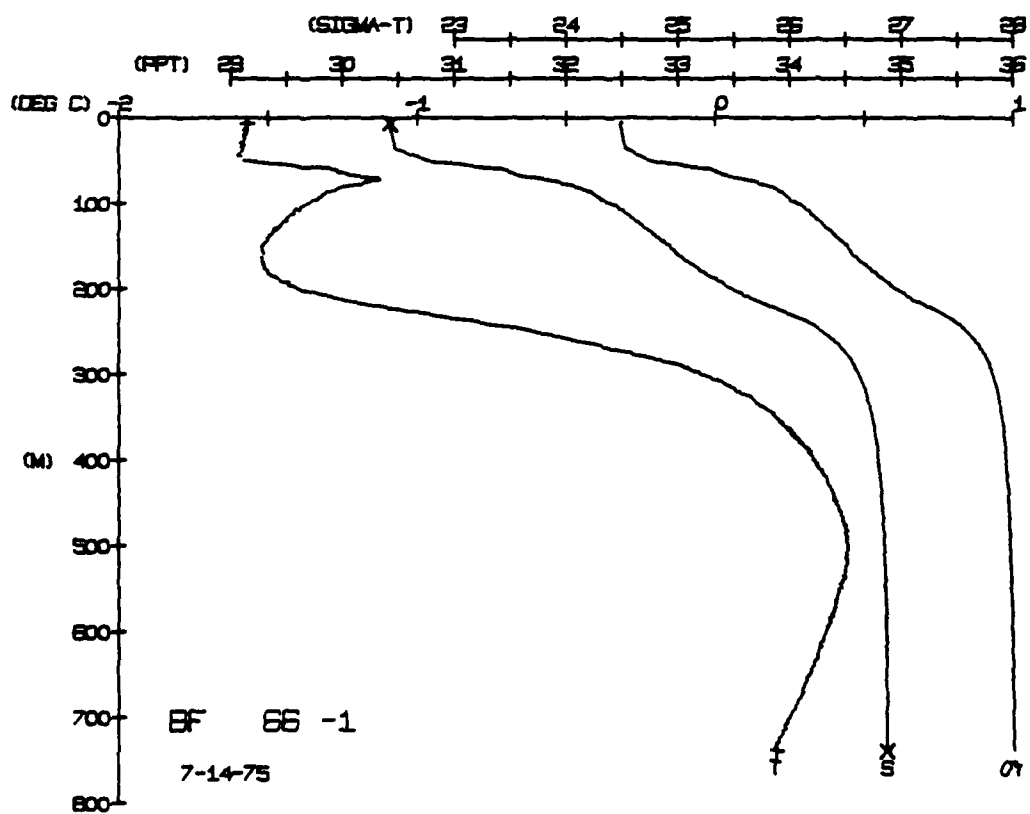
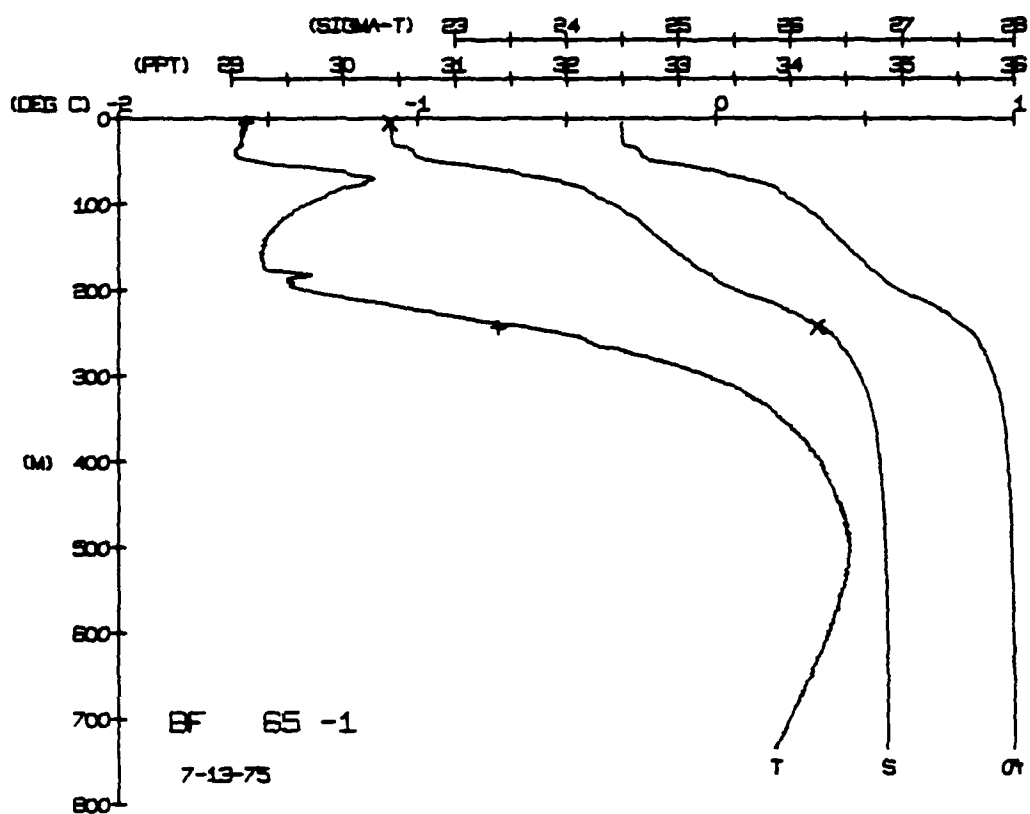




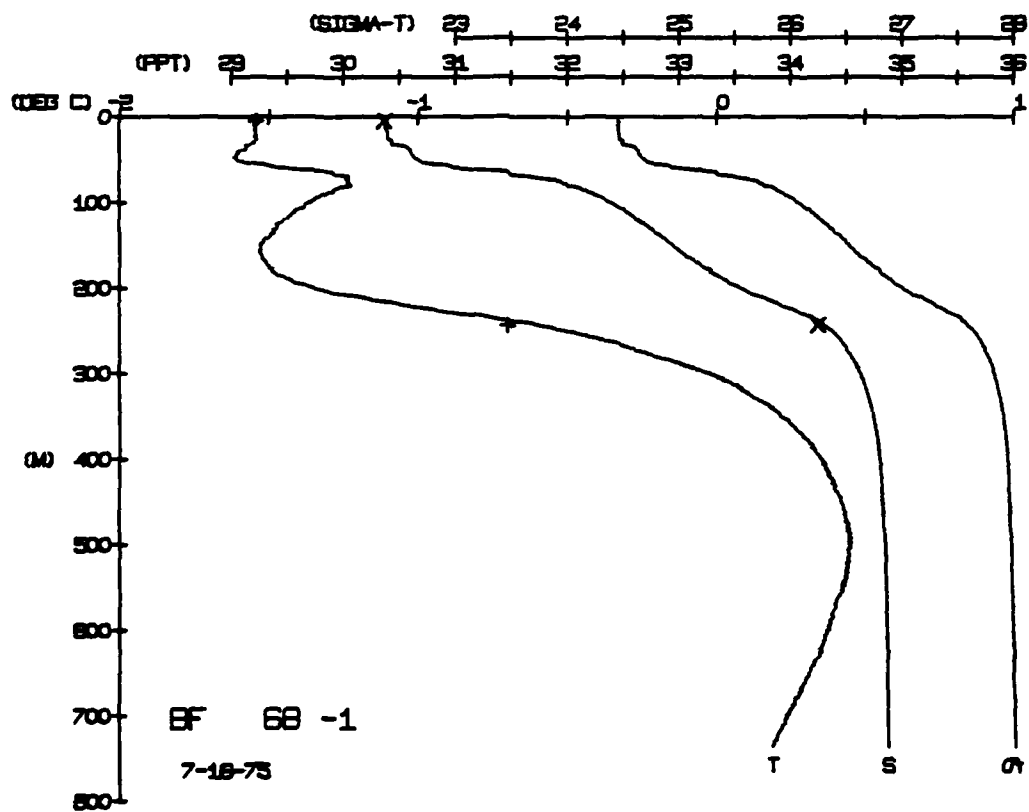
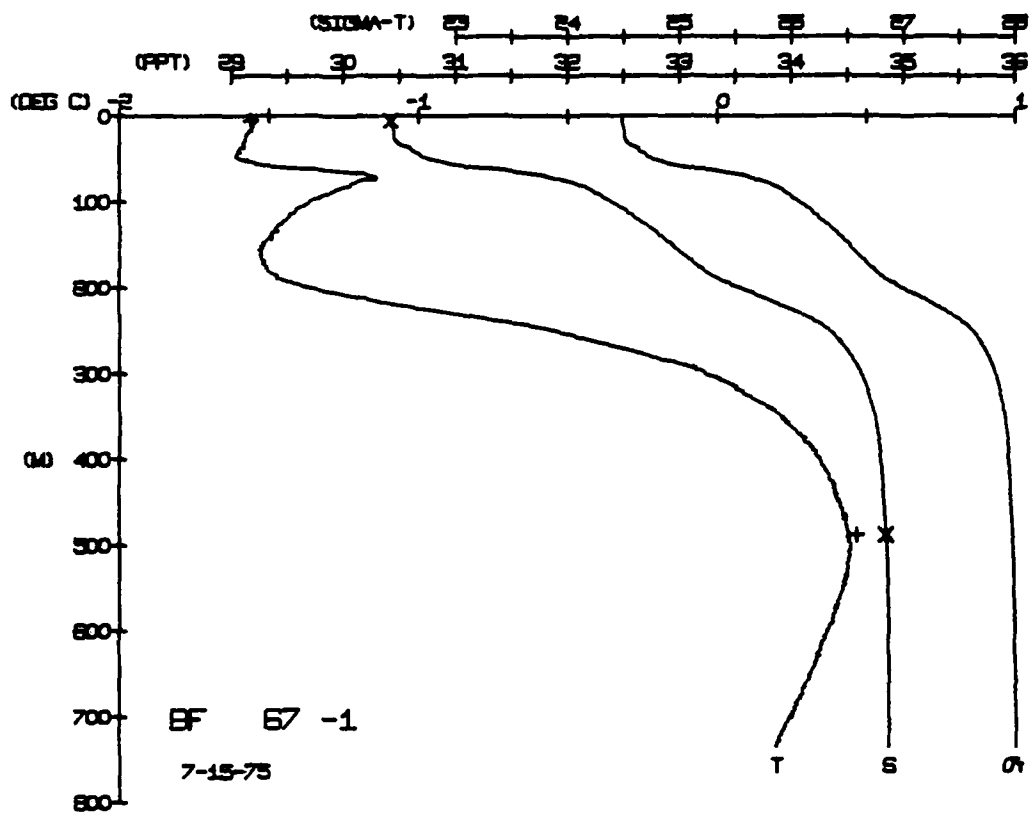




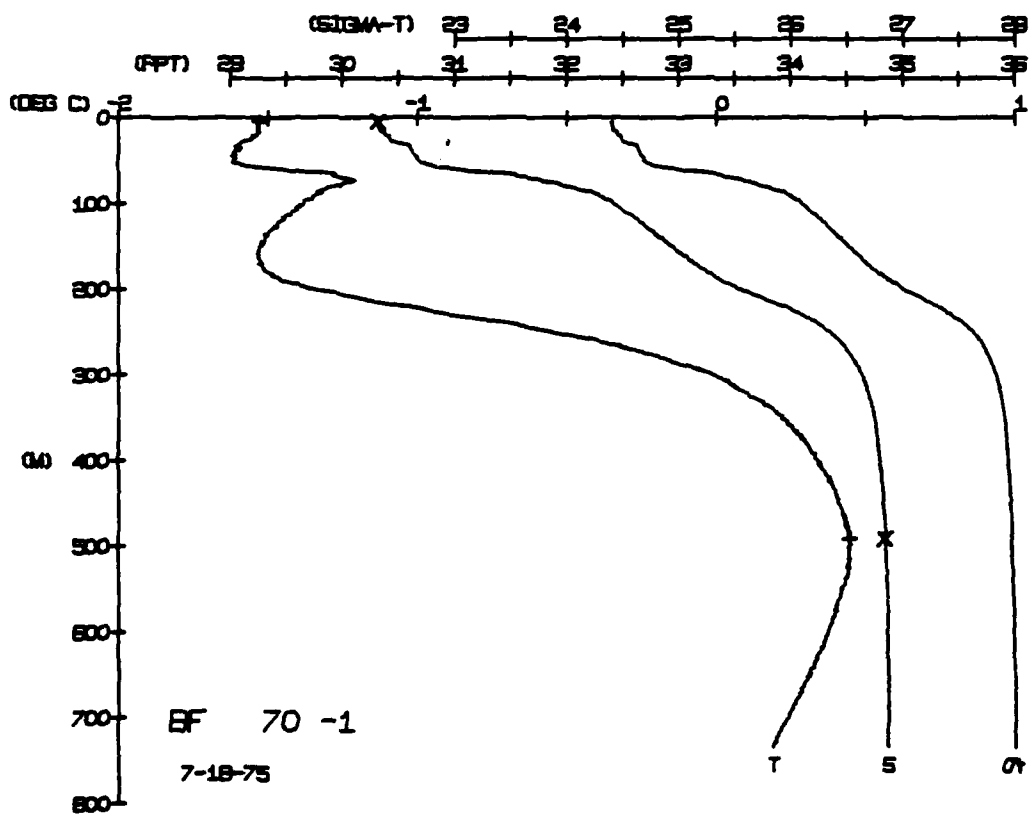
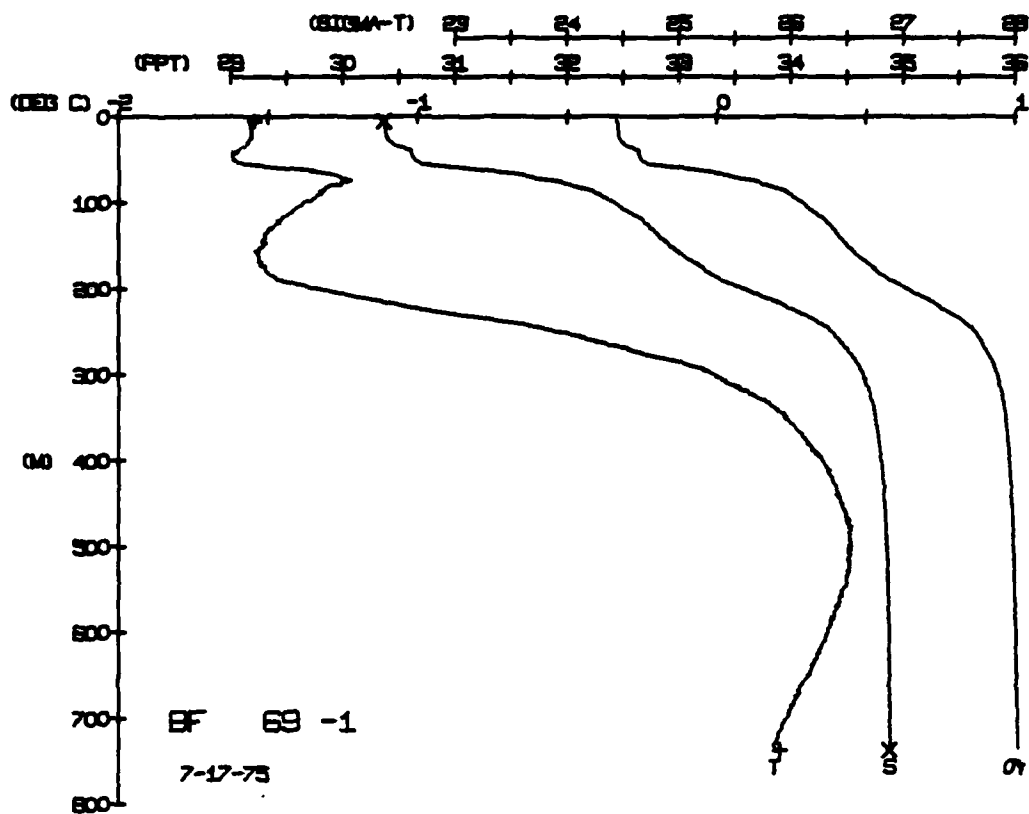




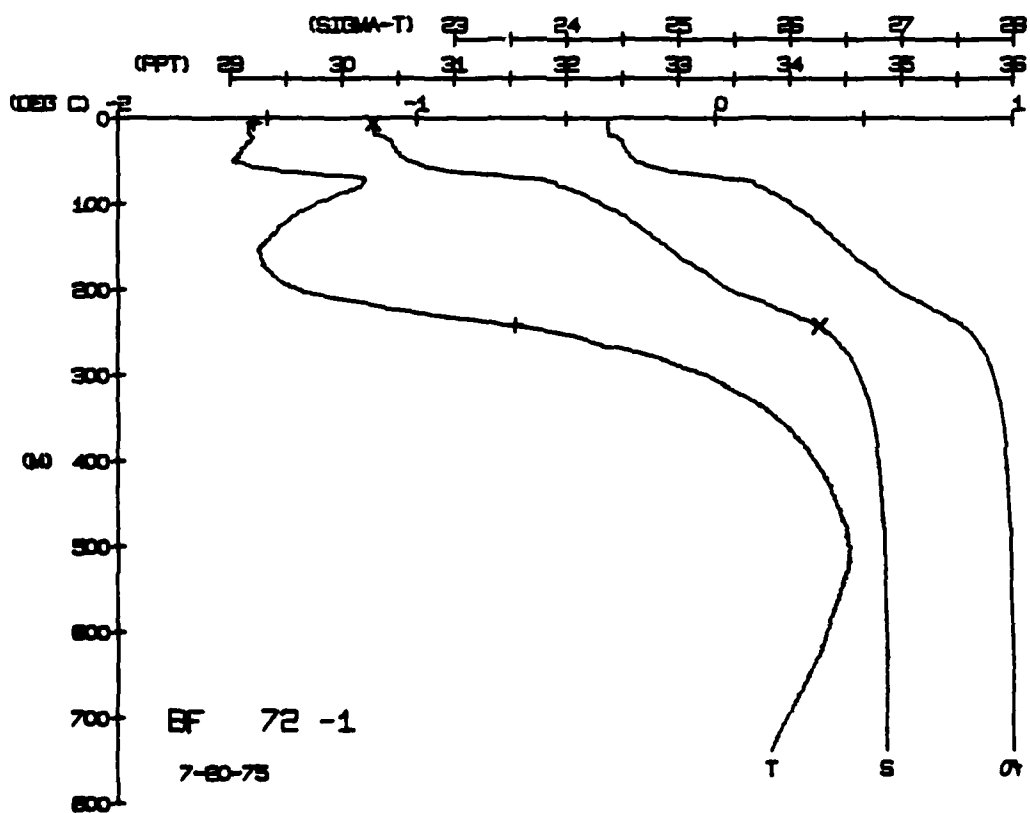
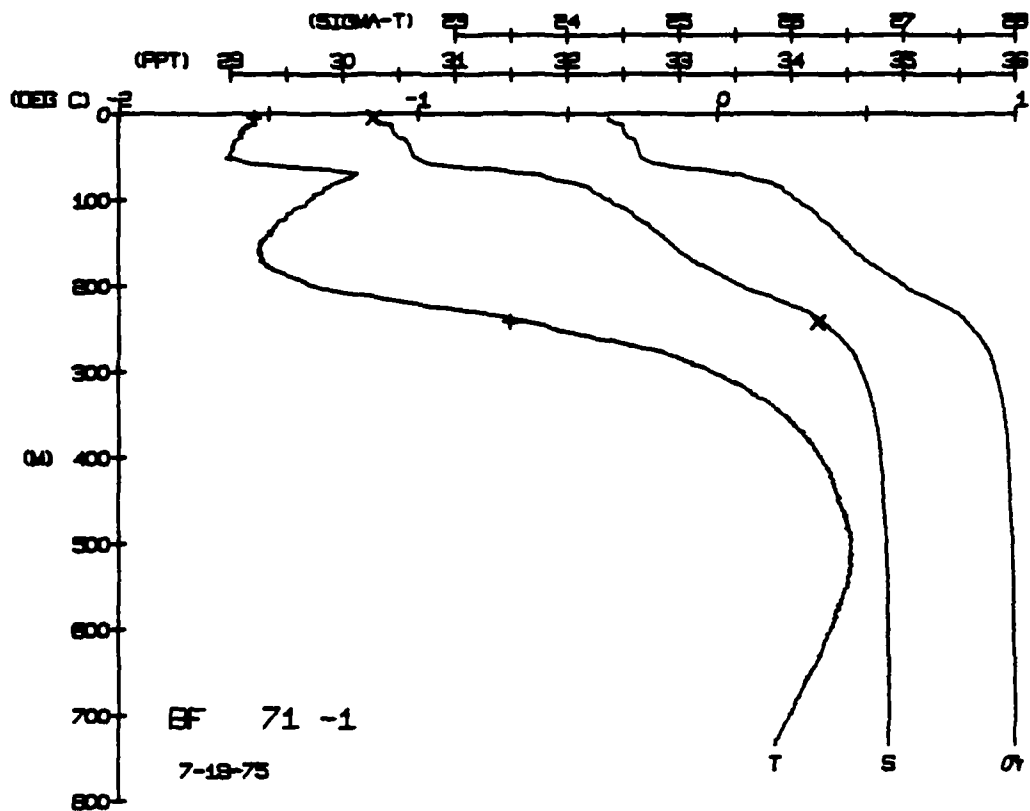










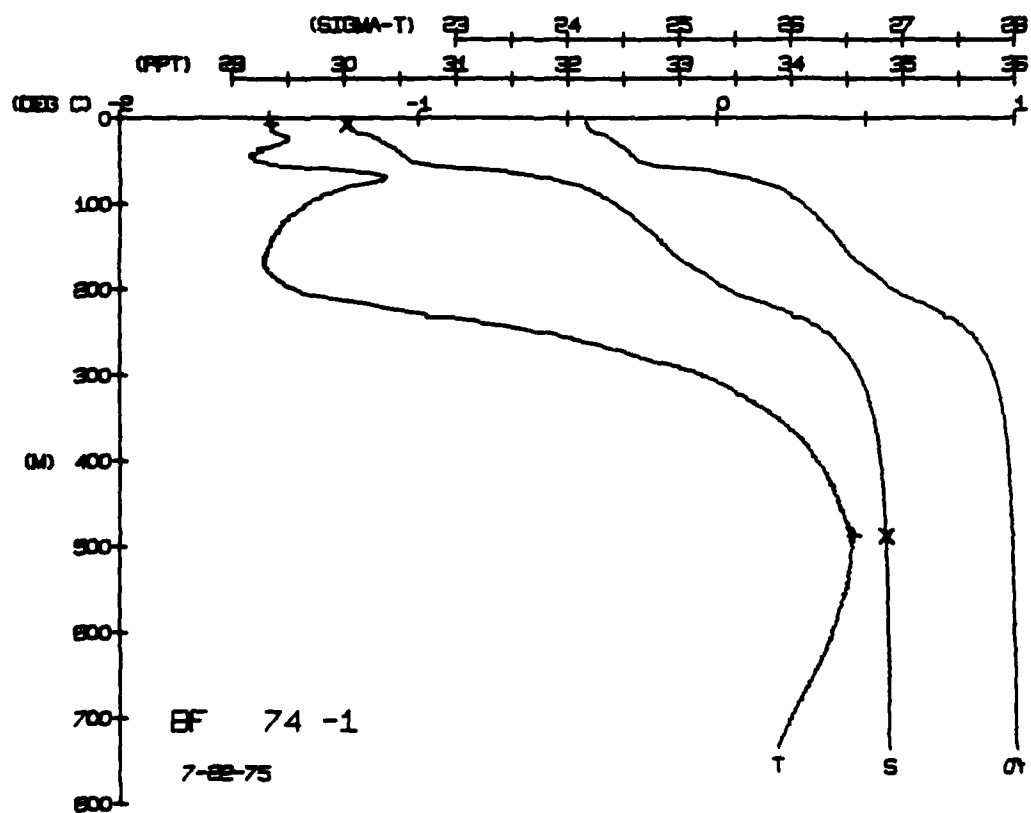
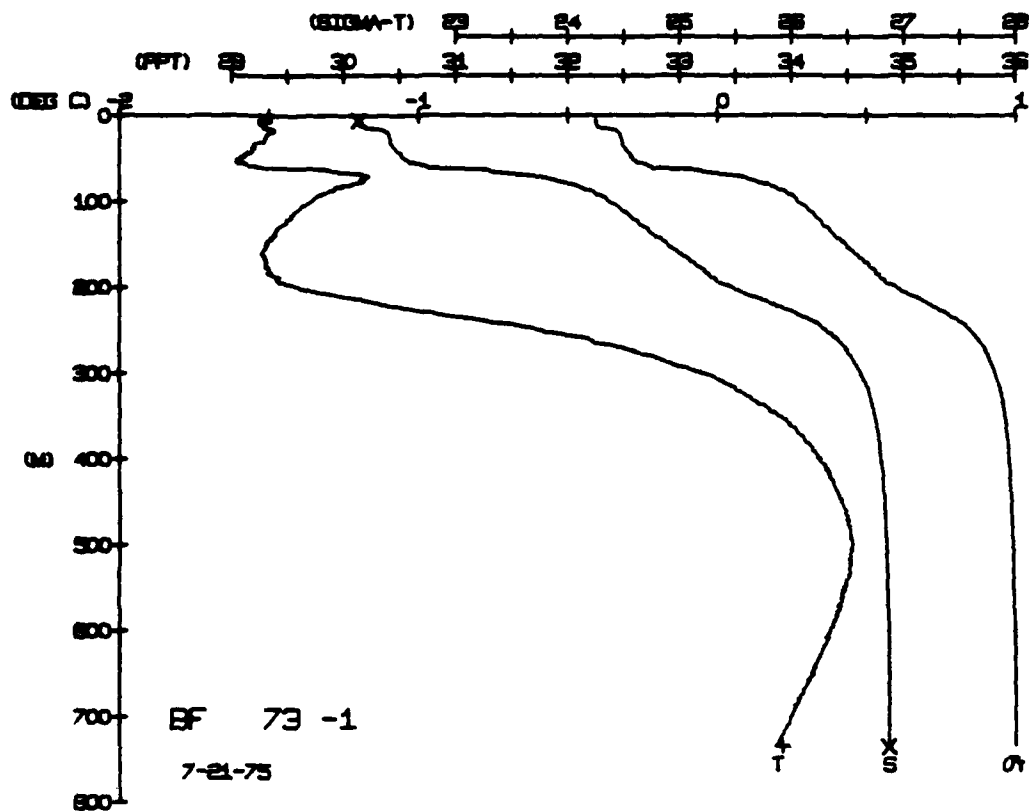




BLUE FOX STATION 74(1) CTD 22/JUL/1975 1803 GMT CODE = 3  
LAT = 75.8847N LNC = 142.6172W I.TER = 10000 LGER = 10000  
AIR TEMP = 1.0 BARUM = 1009.9 WIND = 331.8 SPEED = 40.6

[illegible]

DEPTH	TEMP.	SALIN	BUT NUM = 1	DEPTH	TEMP.	SALIN
1	-1.51	30.13	BUT NUM = 1	1	-1.50	30.03
5.5	0.22	34.00	BUT NUM = 2	5.7	0.46	34.85
735.5				486.8		

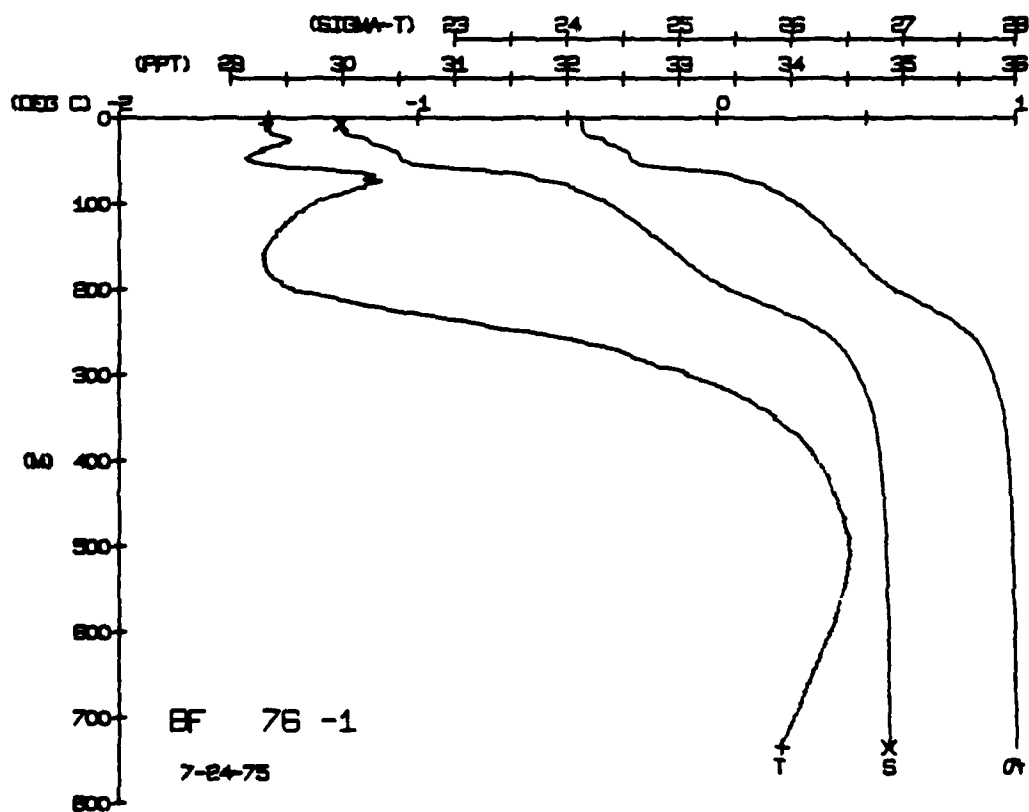
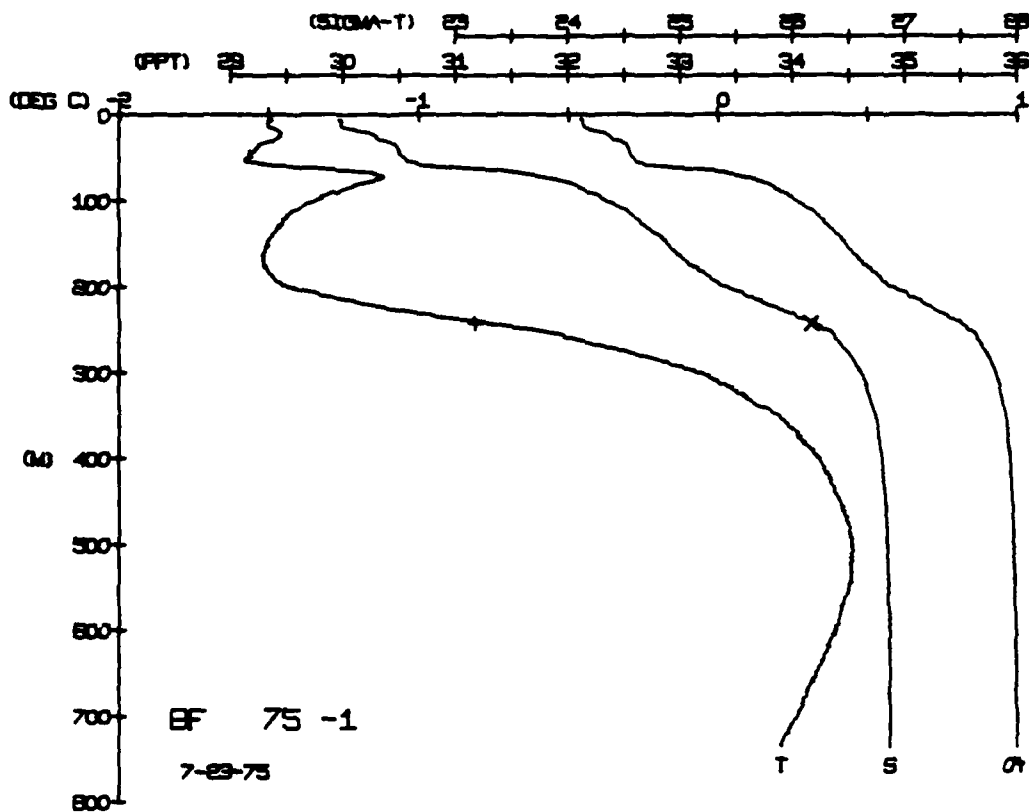


BLUE FOX STATION 76(1) CTD 24/JUL/1975 1808 GMT CODE = 3  
LAT = 75.7477N LNG = 142.8006W LTER = 10000. LGER = 10000.  
AIR TEMP = 0.5 BAROM = 1014.1 WIND = 20.0 SPEED = 28.6

[illegible]

BIT NUM = 1	7.0
BIT NUM = 2	733.8

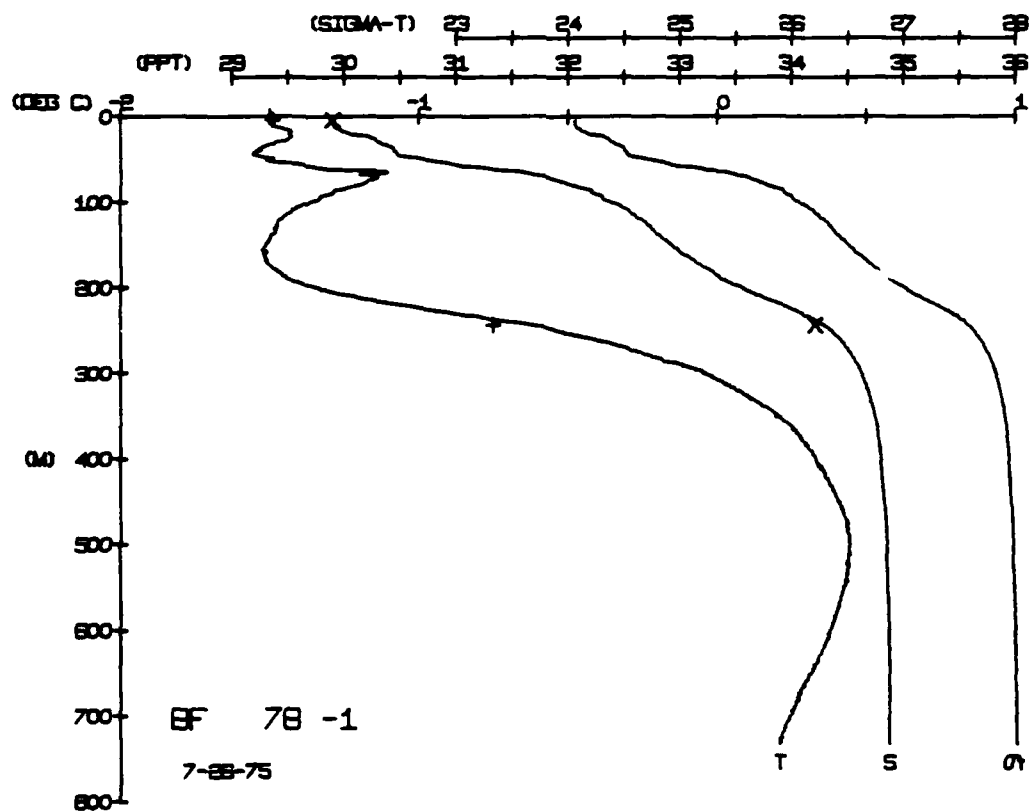
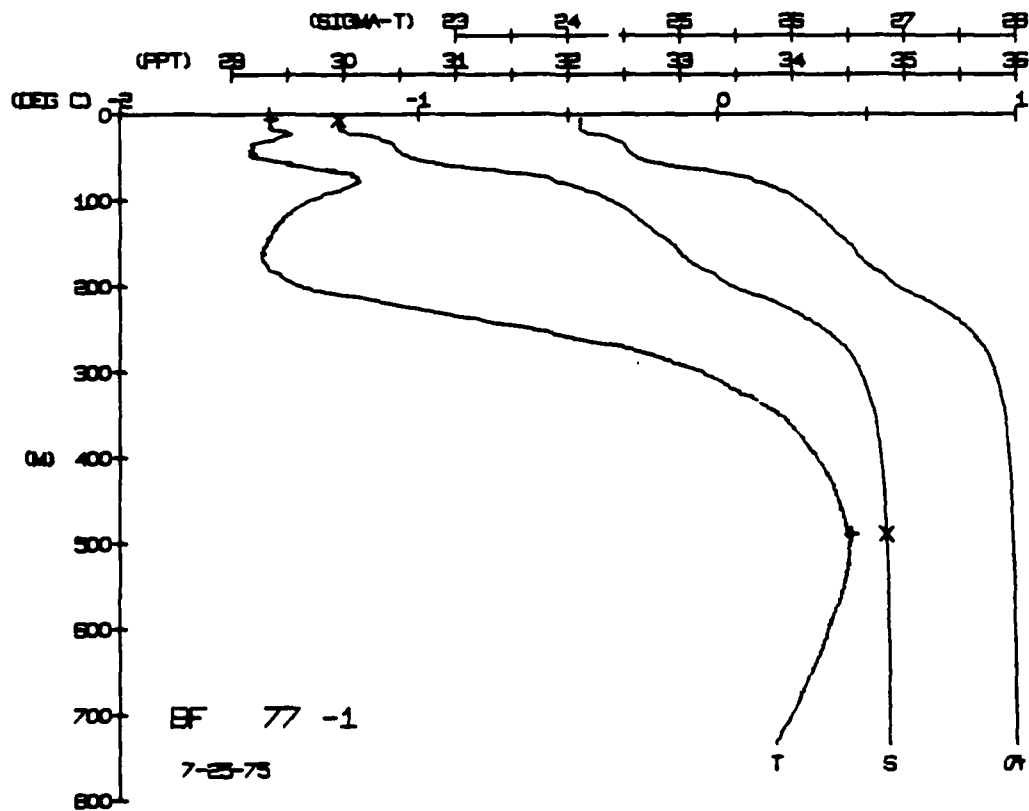
TEMP.	SALIN.
-1.51	29.98
0.22	34.87



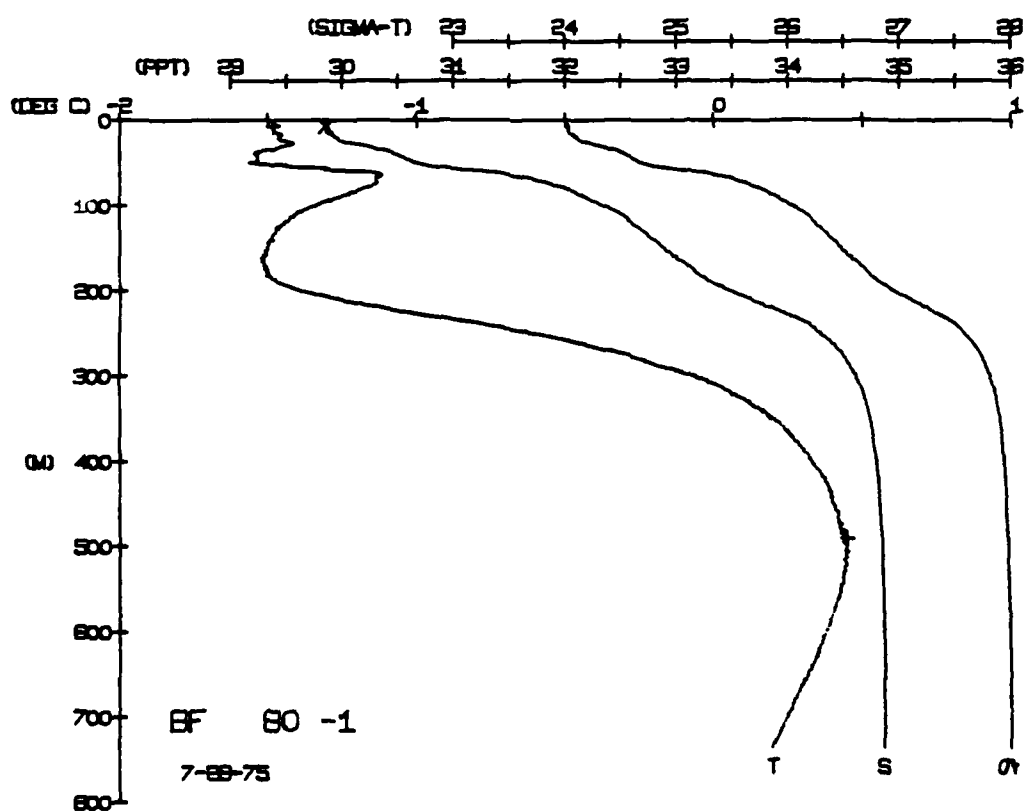
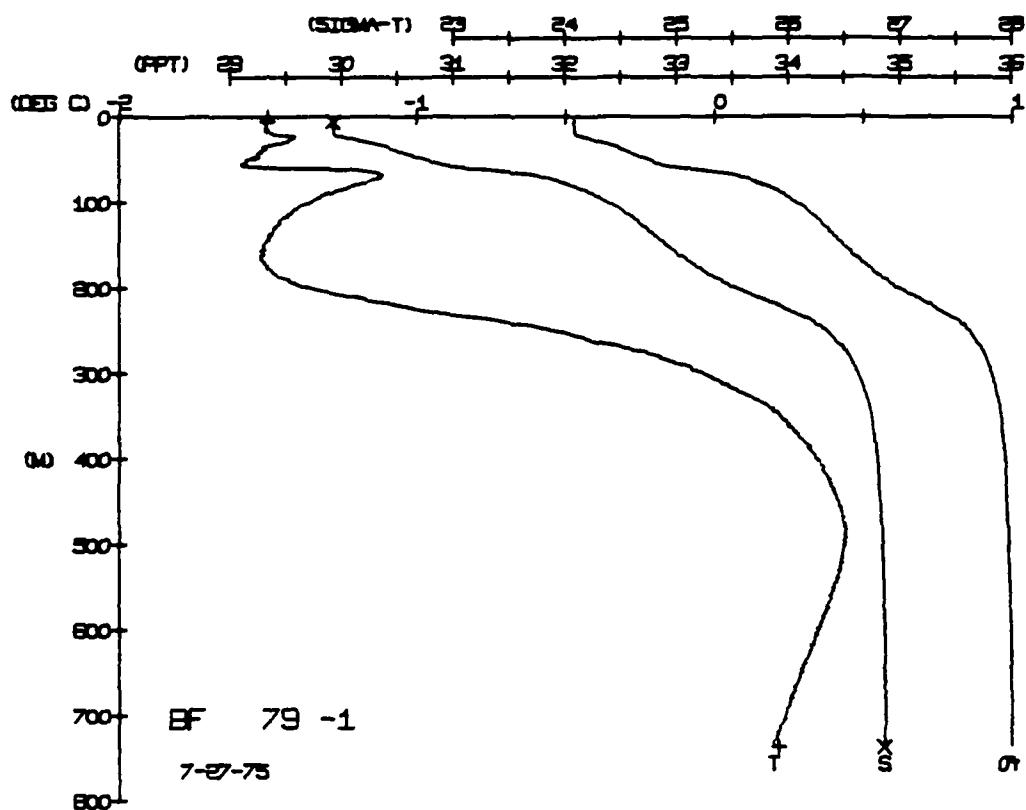
BLUE FOX STATION 78(1) CTD 26/JUL/1975 1806 GMT CODE = 3  
LAT = 75.6746N LNC = 142.9478W CTR = 10000 LGRR = 10000  
AIR TEMP = -0.4 BAROM = 1010.3 WIND = 298.9 SPEED = 53.9

SOUND  
SOUND  
DYNAMI  
SPUL  
SIG I  
SALIN  
PIEP  
TEMP  
DEPTH

	DEPTH	TEMP.	SALIN
BOI NUM = 1	3.7	-1.49	29.90
HOT NUM = 2	243.5	-0.75	34.22







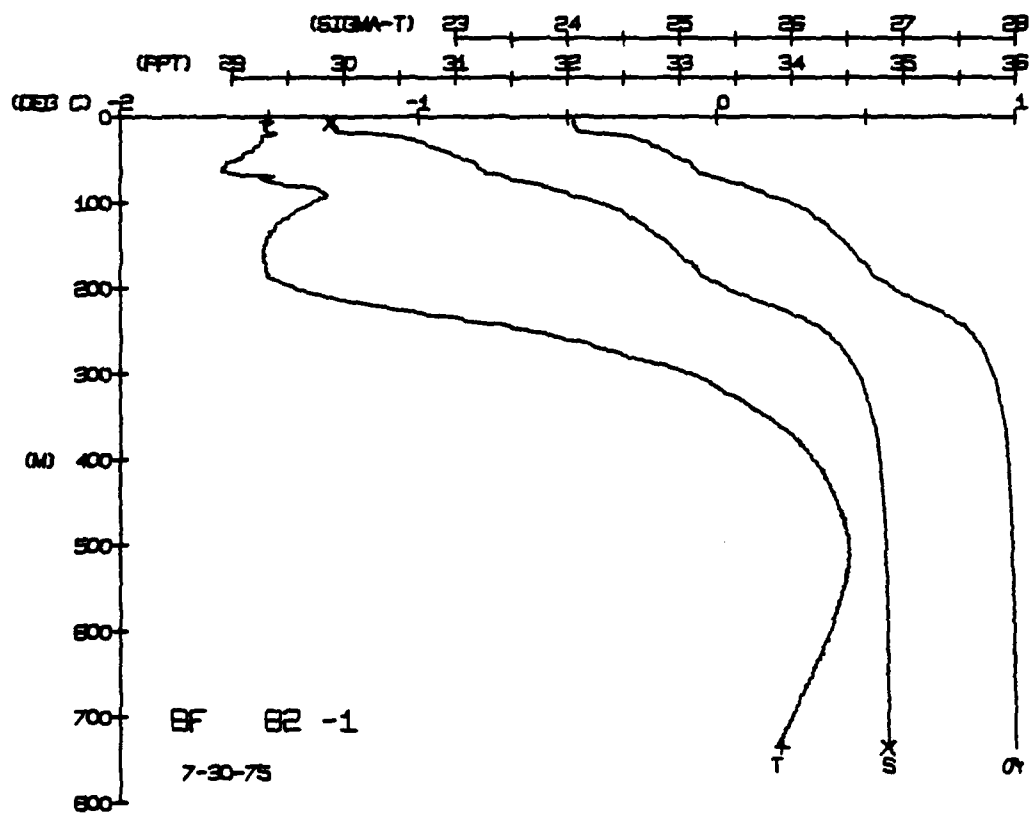
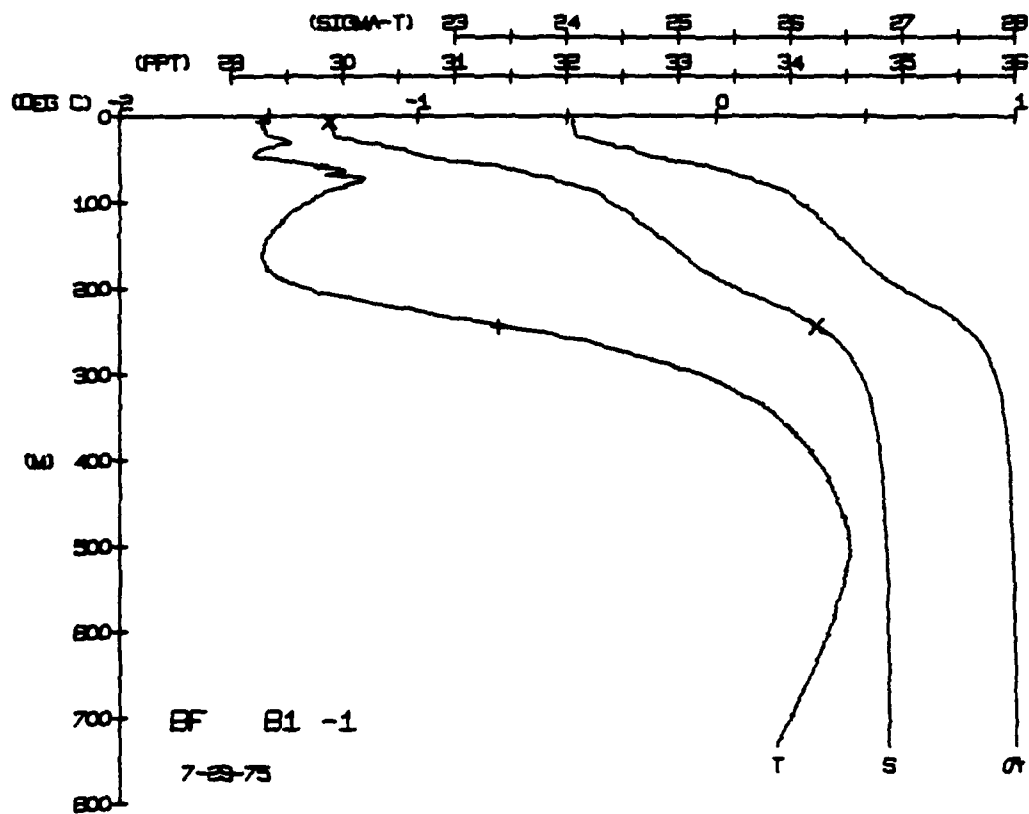


BLUE FOX STATION 82(1) CTD 30/JUL/1975 1802 GMT CODE = 3  
LAT = 75.4302N LNG = 142.0539W LTER = 0 LGER = 0  
AIR TEMP = 0.3 HARUM = 1001.3 WIND = 274.9 SPEED = 87.7

[illegible]

DEPTH	TEMP.	SALIN
5.8	-1.52	29.88
244.8	-0.73	34.21

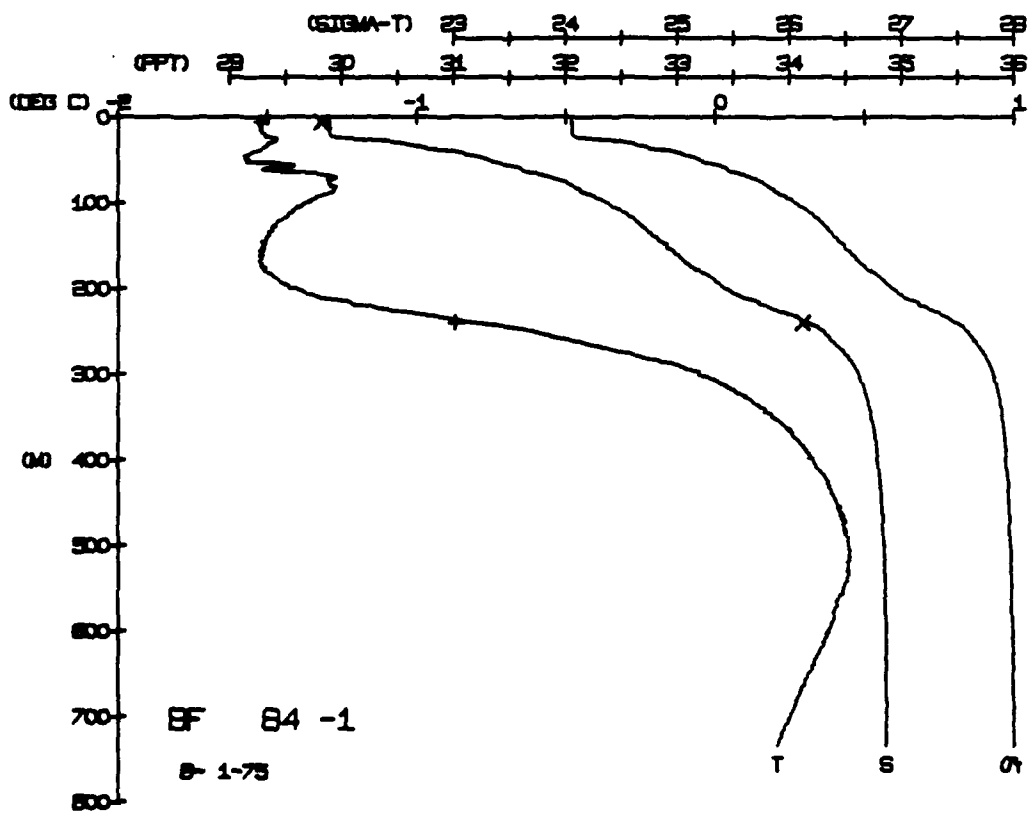
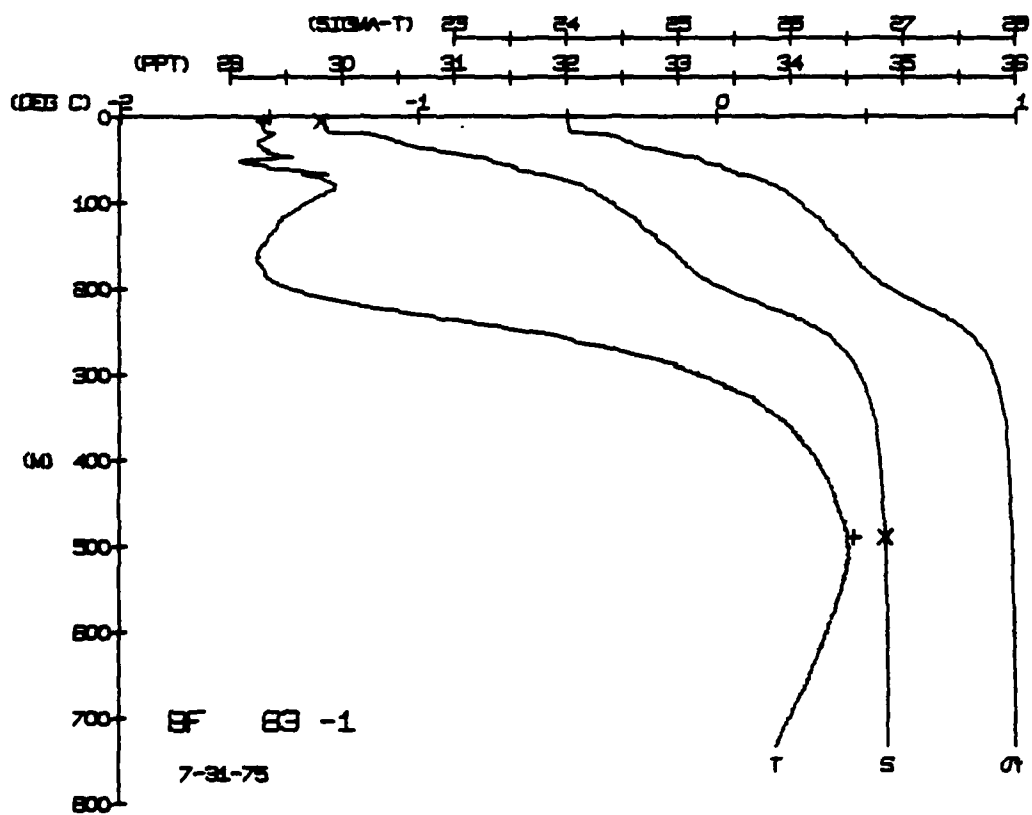
	DEPTH	TEMP.	SALIN
BOT NUM = 1	6.0	-1.51	29.88
HOT NUM = 2	734.7	0.22	34.87



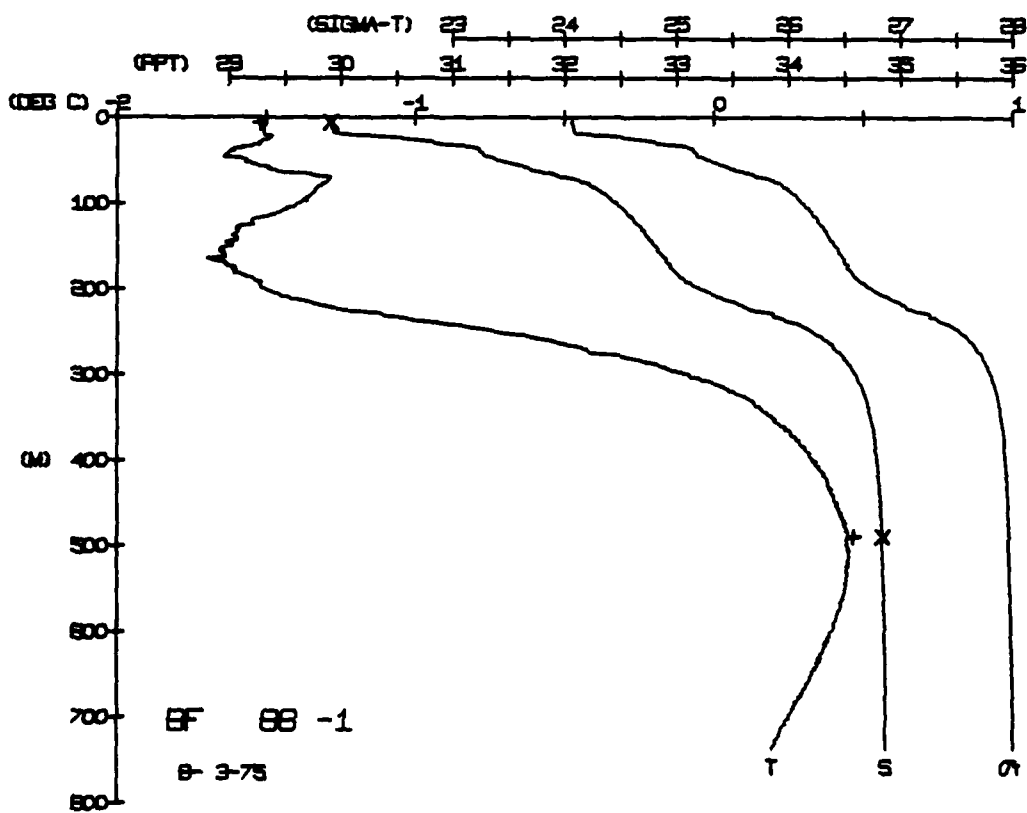
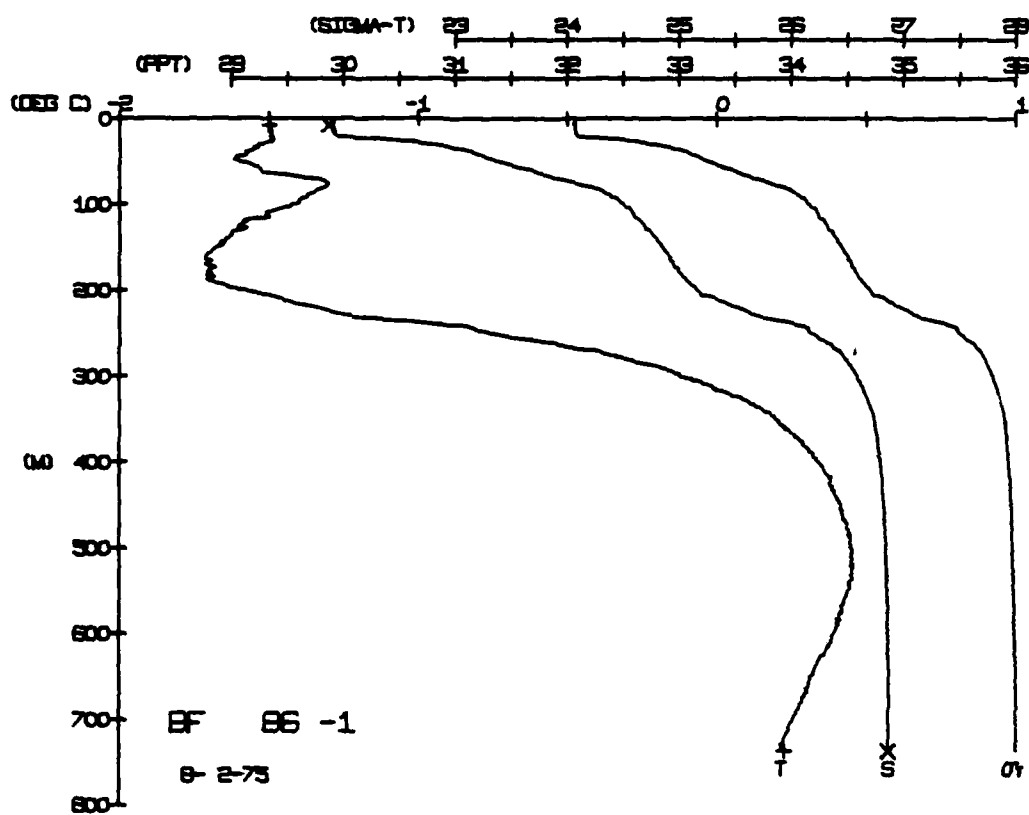
BLUE FOX STATION 84(1) CTD 1/AUG/1975 1804 GMT CODE = 3  
LAT = 75.2435N LNC = 141.3309W LTER = 0 LGEN = 1  
AIR TEMP = 0.3 BARUM = 1013.2 WIND = 282.3 SPED = 61.1

[illegible]

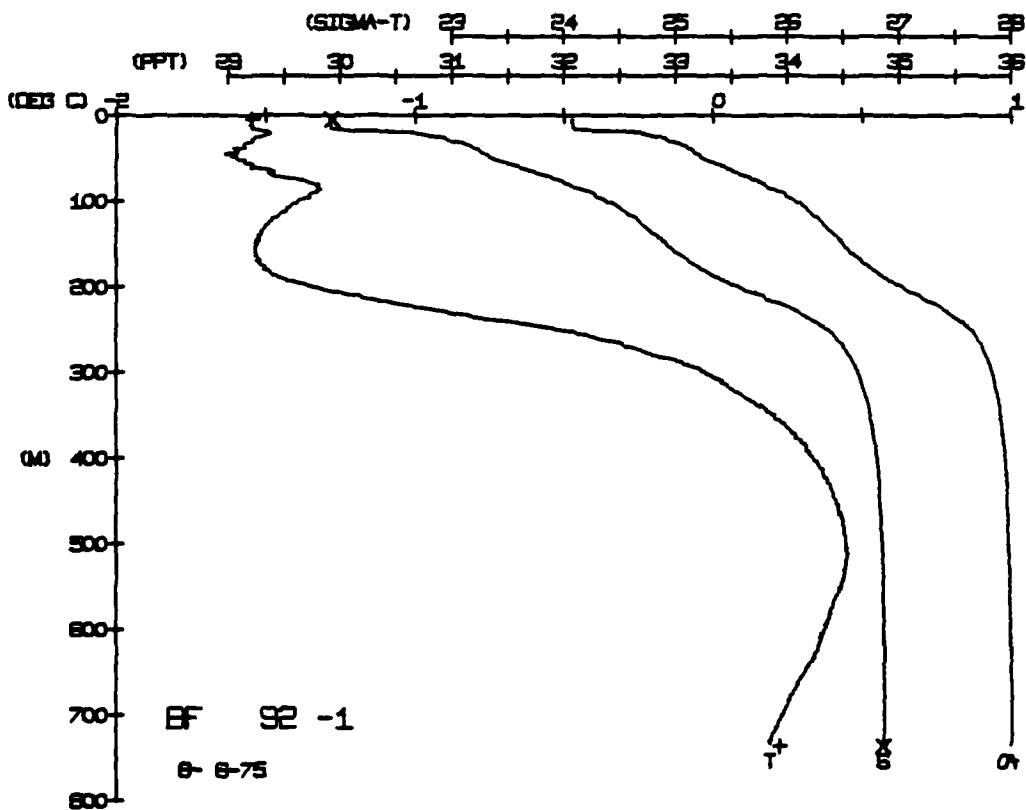
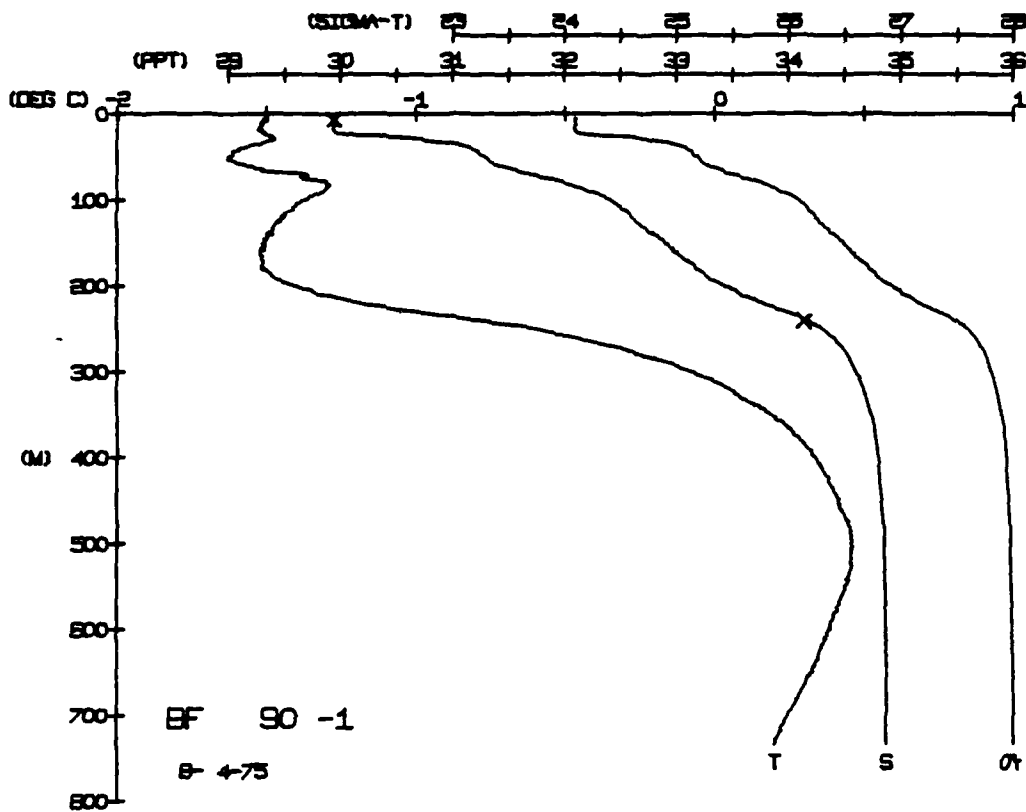
ROT NUM = 1	DEPTH	TEMP.	SALIN
ROT NUM = 2	5.8	-1.57	29.82
	239.8	-0.87	34.13





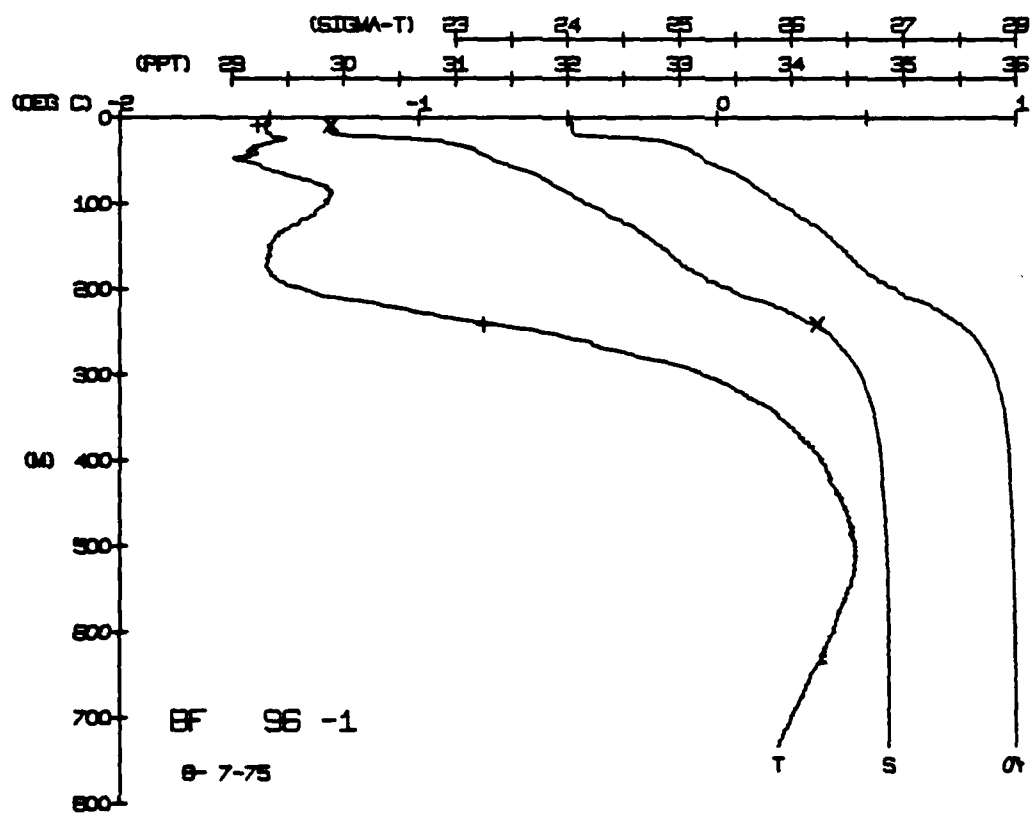
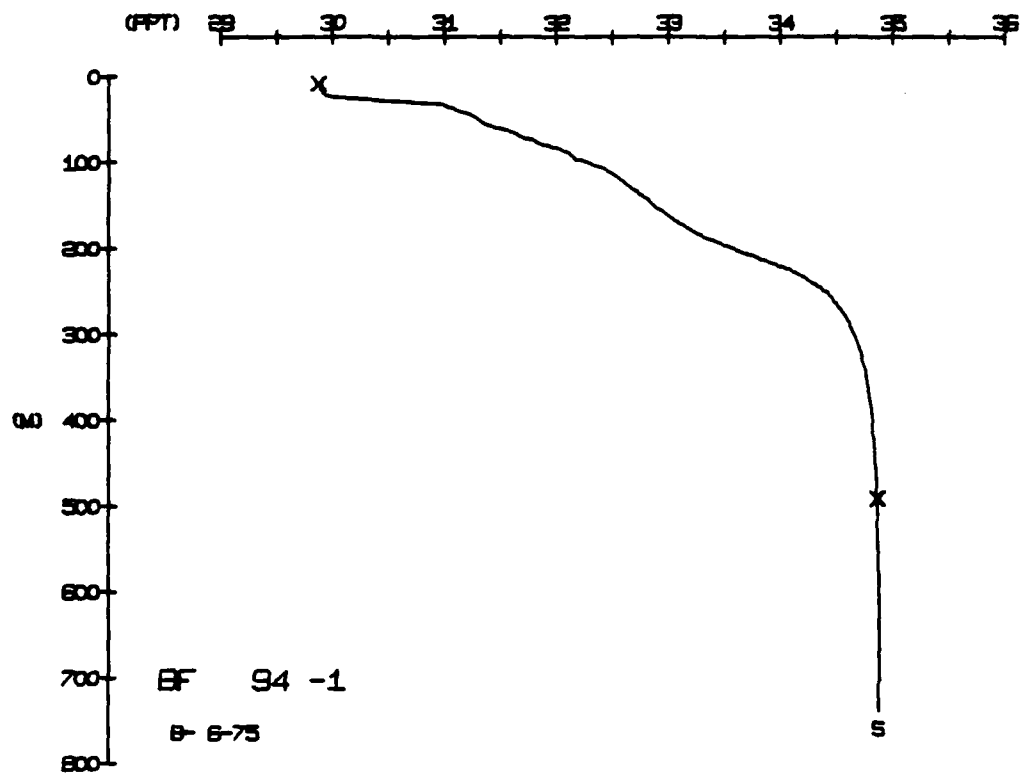








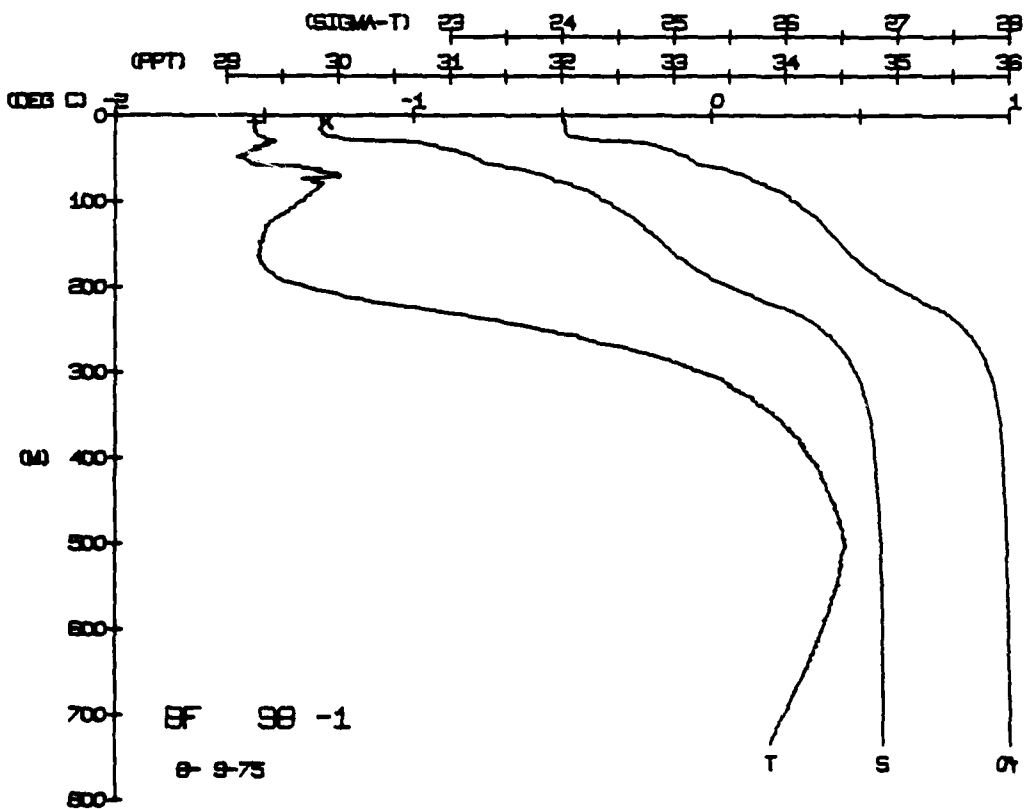
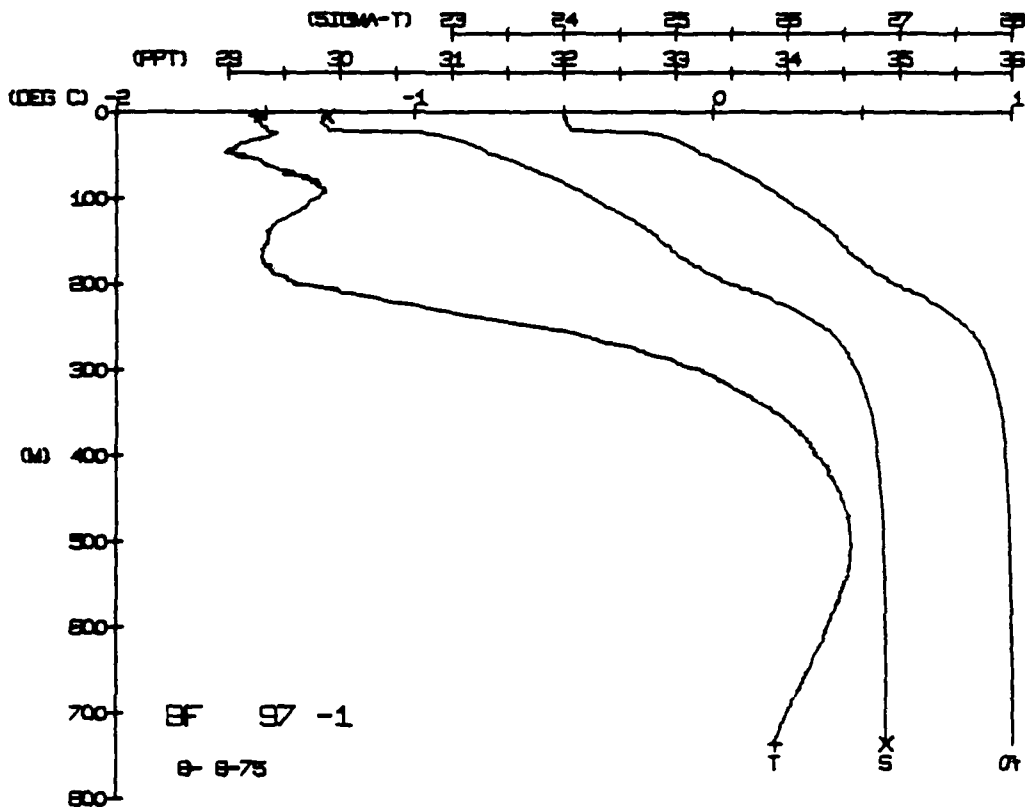




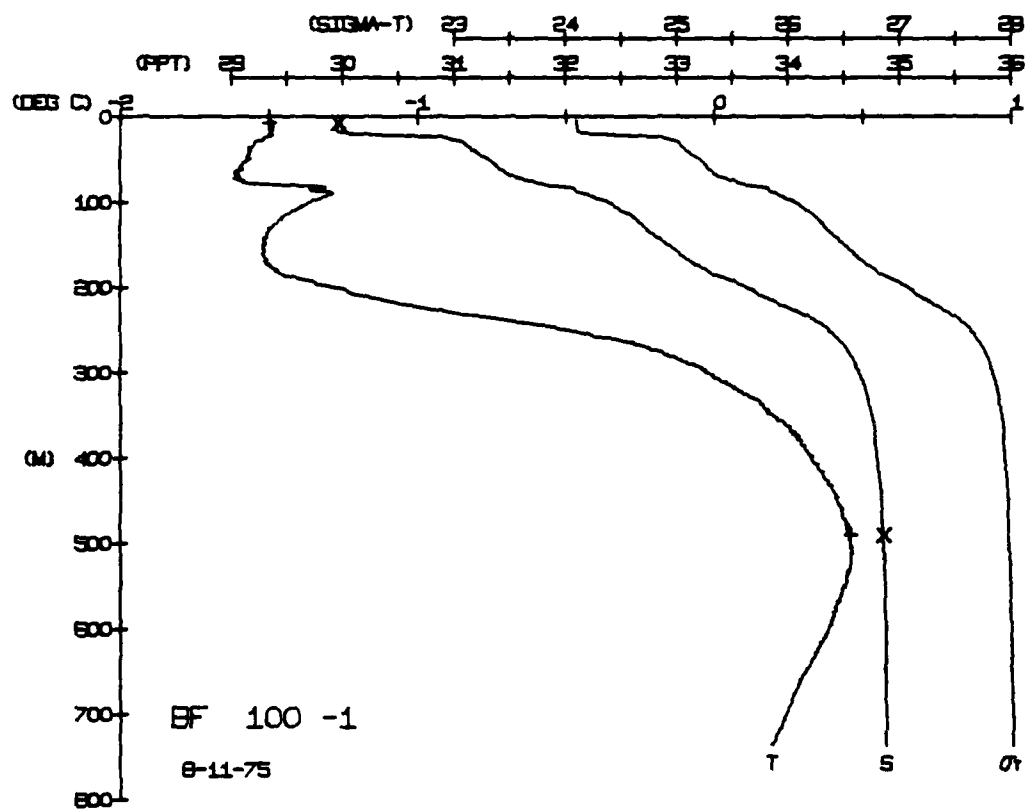
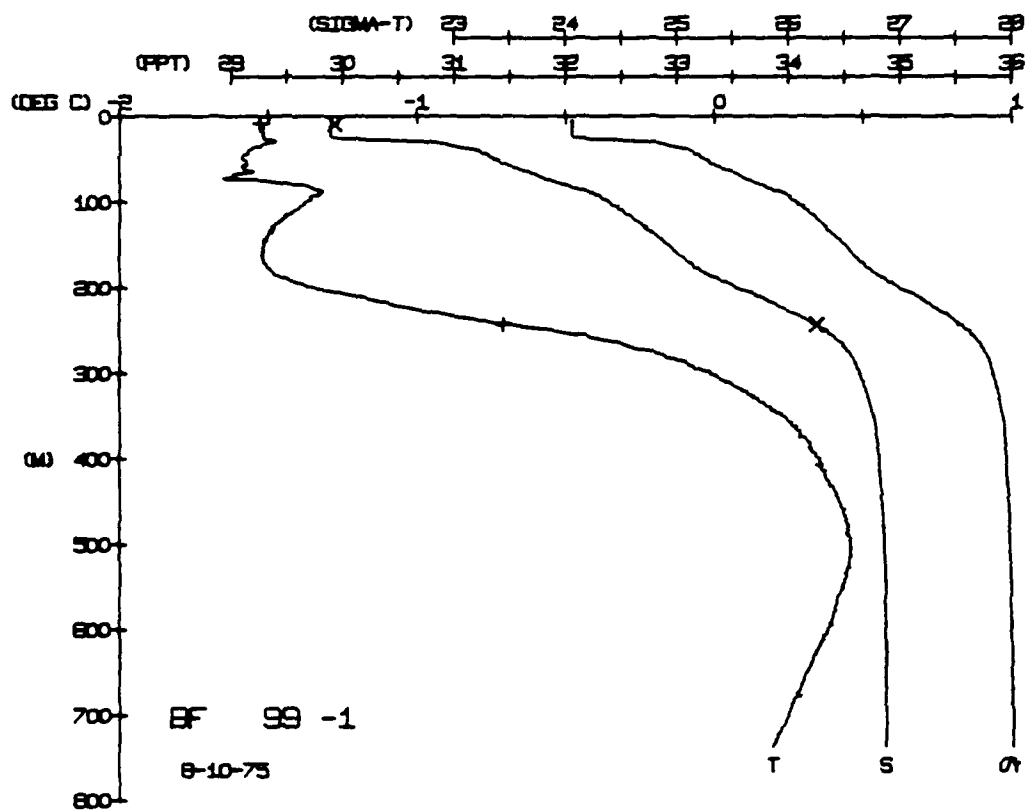
BLUE FOX STATION 98(1) CTD 9/AUG/1975 1801 GMT CUDF = 3  
LAT = 75.0437N LNG = 139.1895W ITER = 35 LGEN = 49  
AIR TEMP = 0.1 BARUM = 979.1 WIND = 220.5 SPEED = 103.4

DEPTH	TEMP	PTEMP	SALIN	SIG T	SPVUL	DYNHI	SOUND
0.0	19.99	19.99	35.20	1.022	5.44	0.021	34.44
0.1	19.99	19.99	35.20	1.022	5.44	0.021	34.44
0.2	19.99	19.99	35.20	1.022	5.44	0.021	34.44
0.3	19.99	19.99	35.20	1.022	5.44	0.021	34.44
0.4	19.99	19.99	35.20	1.022	5.44	0.021	34.44
0.5	19.99	19.99	35.20	1.022	5.44	0.021	34.44
0.6	19.99	19.99	35.20	1.022	5.44	0.021	34.44
0.7	19.99	19.99	35.20	1.022	5.44	0.021	34.44
0.8	19.99	19.99	35.20	1.022	5.44	0.021	34.44
0.9	19.99	19.99	35.20	1.022	5.44	0.021	34.44
1.0	19.99	19.99	35.20	1.022	5.44	0.021	34.44
1.1	19.99	19.99	35.20	1.022	5.44	0.021	34.44
1.2	19.99	19.99	35.20	1.022	5.44	0.021	34.44
1.3	19.99	19.99	35.20	1.022	5.44	0.021	34.44
1.4	19.99	19.99	35.20	1.022	5.44	0.021	34.44
1.5	19.99	19.99	35.20	1.022	5.44	0.021	34.44
1.6	19.99	19.99	35.20	1.022	5.44	0.021	34.44
1.7	19.99	19.99	35.20	1.022	5.44	0.021	34.44
1.8	19.99	19.99	35.20	1.022	5.44	0.021	34.44
1.9	19.99	19.99	35.20	1.022	5.44	0.021	34.44
2.0	19.99	19.99	35.20	1.022	5.44	0.021	34.44
2.1	19.99	19.99	35.20	1.022	5.44	0.021	34.44
2.2	19.99	19.99	35.20	1.022	5.44	0.021	34.44
2.3	19.99	19.99	35.20	1.022	5.44	0.021	34.44
2.4	19.99	19.99	35.20	1.022	5.44	0.021	34.44
2.5	19.99	19.99	35.20	1.022	5.44	0.021	34.44
2.6	19.99	19.99	35.20	1.022	5.44	0.021	34.44
2.7	19.99	19.99	35.20	1.022	5.44	0.021	34.44
2.8	19.99	19.99	35.20	1.022	5.44	0.021	34.44
2.9	19.99	19.99	35.20	1.022	5.44	0.021	34.44
3.0	19.99	19.99	35.20	1.022	5.44	0.021	34.44
3.1	19.99	19.99	35.20	1.022	5.44	0.021	34.44
3.2	19.99	19.99	35.20	1.022	5.44	0.021	34.44
3.3	19.99	19.99	35.20	1.022	5.44	0.021	34.44
3.4	19.99	19.99	35.20	1.022	5.44	0.021	34.44
3.5	19.99	19.99	35.20	1.022	5.44	0.021	34.44
3.6	19.99	19.99	35.20	1.022	5.44	0.021	34.44
3.7	19.99	19.99	35.20	1.022	5.44	0.021	34.44
3.8	19.99	19.99	35.20	1.022	5.44	0.021	34.44
3.9	19.99	19.99	35.20	1.022	5.44	0.021	34.44
4.0	19.99	19.99	35.20	1.022	5.44	0.021	34.44
4.1	19.99	19.99	35.20	1.022	5.44	0.021	34.44
4.2	19.99	19.99	35.20	1.022	5.44	0.021	34.44
4.3	19.99	19.99	35.20	1.022			

WOT NUM = 1	DEPTH	TEMP.	SALIN
	7.4	-1.53	29.88







BLUE FOX STATION 101(1) CTD 12/AUG/1975 1800 GMT CODE = 3  
LAT = 74.8413N LNC = 138.0983W LTR = 1 LGER = 2  
AIR TEMP = 0.1 BARUM = 1011.0 WIND = 24.2 SPEED = 56.7

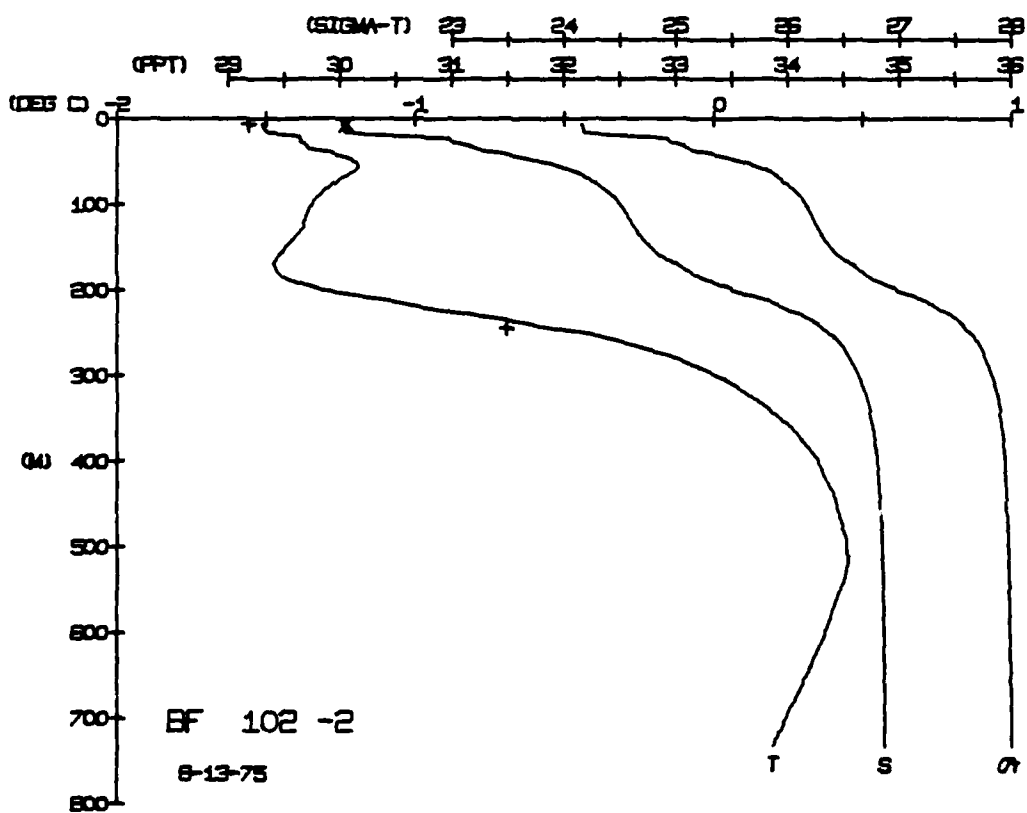
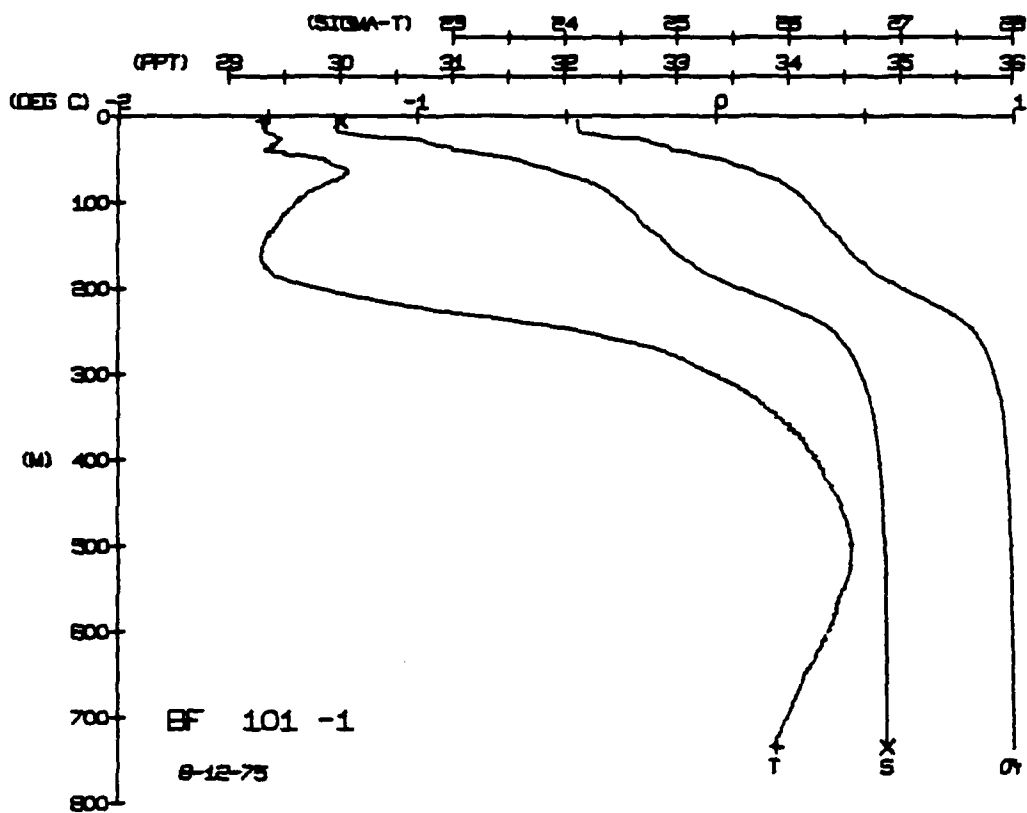
BLUE FOX STATION 102(2) CTD 13/AUG/1975 1800 GMT CODE = 2  
LAT = 74.8996N LNC = 137.7822W LTR = 0 LGER = 0  
AIR TEMP = 1.0 BARUM = 1001.0 WIND = 16.4 SPEED = 108.4

DEPTH	TEMP	PTEMP	SALIN	SIG T	SPVOL	DYHMT	SOUND
0	11.11	11.11	35.00	1.11	1.11	0.00	1493
1	11.11	11.11	35.00	1.11	1.11	0.00	1493
2	11.11	11.11	35.00	1.11	1.11	0.00	1493
3	11.11	11.11	35.00	1.11	1.11	0.00	1493
4	11.11	11.11	35.00	1.11	1.11	0.00	1493
5	11.11	11.11	35.00	1.11	1.11	0.00	1493
6	11.11	11.11	35.00	1.11	1.11	0.00	1493
7	11.11	11.11	35.00	1.11	1.11	0.00	1493
8	11.11	11.11	35.00	1.11	1.11	0.00	1493
9	11.11	11.11	35.00	1.11	1.11	0.00	1493
10	11.11	11.11	35.00	1.11	1.11	0.00	1493
11	11.11	11.11	35.00	1.11	1.11	0.00	1493
12	11.11	11.11	35.00	1.11	1.11	0.00	1493
13	11.11	11.11	35.00	1.11	1.11	0.00	1493
14	11.11	11.11	35.00	1.11	1.11	0.00	1493
15	11.11	11.11	35.00	1.11	1.11	0.00	1493
16	11.11	11.11	35.00	1.11	1.11	0.00	1493
17	11.11	11.11	35.00	1.11	1.11	0.00	1493
18	11.11	11.11	35.00	1.11	1.11	0.00	1493
19	11.11	11.11	35.00	1.11	1.11	0.00	1493
20	11.11	11.11	35.00	1.11	1.11	0.00	1493
21	11.11	11.11	35.00	1.11	1.11	0.00	1493
22	11.11	11.11	35.00	1.11	1.11	0.00	1493
23	11.11	11.11	35.00	1.11	1.11	0.00	1493
24	11.11	11.11	35.00	1.11	1.11	0.00	1493
25	11.11	11.11	35.00	1.11	1.11	0.00	1493
26	11.11	11.11	35.00	1.11	1.11	0.00	1493
27	11.11	11.11	35.00	1.11	1.11	0.00	1493
28	11.11	11.11	35.00	1.11	1.11	0.00	1493
29	11.11	11.11	35.00	1.11	1.11	0.00	1493
30	11.11	11.11	35.00	1.11	1.11	0.00	1493
31	11.11	11.11	35.00	1.11	1.11	0.00	1493
32	11.11	11.11	35.00	1.11	1.11	0.00	1493
33	11.11	11.11	35.00	1.11	1.11	0.00	1493
34	11.11	11.11	35.00	1.11	1.11	0.00	1493
35	11.11	11.11	35.00	1.11	1.11	0.00	1493
36	11.11	11.11	35.00	1.11	1.11	0.00	1493
37	11.11	11.11	35.00	1.11	1.11	0.00	1493
38	11.11	11.11	35.00	1.11	1.11	0.00	1493
39	11.11	11.11	35.00	1.11	1.11	0.00	1493
40	11.11	11.11	35.00	1.11	1.11	0.00	1493
41	11.11	11.11	35.00	1.11	1.11	0.00	1493
42	11.11	11.11	35.00	1.11	1.11	0.00	1493
43	11.11	11.11	35.00	1.11	1.11	0.00	1493
44	11.11	11.11	35.00	1.11	1.11	0.00	1493
45	11.11	11.11	35.00	1.11	1.11	0.00	1493
46	11.11	11.11	35.00	1.11	1.11	0.00	1493
47	11.11	11.11	35.00	1.11	1.11	0.00	1493
48	11.11	11.11	35.00	1.11	1.11	0.00	1493
49	11.11	11.11	35.00	1.11	1.11	0.00	1493
50	11.11	11.11	35.00	1.11	1.11	0.00	1493
51	11.11	11.11	35.00	1.11	1.11	0.00	1493
52	11.11	11.11	35.00	1.11	1.11	0.00	1493
53	11.11	11.11	35.00	1.11	1.11	0.00	1493
54	11.11	11.11	35.00	1.11	1.11	0.00	1493
55	11.11	11.11	35.00	1.11	1.11	0.00	1493
56	11.11	11.11	35.00	1.11	1.11	0.00	1493
57	11.11	11.11	35.00	1.11	1.11	0.00	1493
58	11.11	11.11	35.00	1.11	1.11	0.00	1493
59	11.11	11.11	35.00	1.11	1.11	0.00	1493
60	11.11	11.11	35.00	1.11	1.11	0.00	1493
61	11.11	11.11	35.00	1.11	1.11	0.00	1493
62	11.11	11.11	35.00	1.11	1.11	0.00	1493
63	11.11	11.11	35.00	1.11	1.11	0.00	1493
64	11.11	11.11	35.00	1.11	1.11	0.00	1493
65	11.11	11.11	35.00	1.11	1.11	0.00	1493
66	11.11	11.11	35.00	1.11	1.11	0.00	1493
67	11.11	11.11	35.00	1.11	1.11	0.00	1493
68	11.11	11.11	35.00	1.11	1.11	0.00	1493
69	11.11	11.11	35.00	1.11	1.11	0.00	1493
70	11.11	11.11	35.00	1.11	1.11	0.00	1493
71	11.11	11.11	35.00	1.11	1.11	0.00	1493
72	11.11	11.11	35.00	1.11	1.11	0.00	1493
73	11.11	11.11	35.00	1.11	1.11	0.00	1493
74	11.11	11.11	35.00	1.11	1.11	0.00	1493
75	11.11	11.11	35.00	1.11	1.11	0.00	1493
76	11.11	11.11	35.00	1.11	1.11	0.00	1493
77	11.11	11.11	35.00	1.11	1.11	0.00	1493
78	11.11	11.11	35.00	1.11	1.11	0.00	1493
79	11.11	11.11	35.00	1.11	1.11	0.00	1493
80	11.11	11.11	35.00	1.11	1.11	0.00	1493
81	11.11	11.11	35.00	1.11	1.11	0.00	1493
82	11.11	11.11	35.00	1.11	1.11	0.00	1493
83	11.11	11.11	35.00	1.11	1.11	0.00	1493
84	11.11	11.11	35.00	1.11	1.11	0.00	1493
85	11.11	11.11	35.00	1.11	1.11	0.00	1493
86	11.11	11.11	35.00	1.11	1.11	0.00	1493
87	11.11	11.11	35.00	1.11	1.11	0.00	1493
88	11.11	11.11	35.00	1.11	1.11	0.00	1493
89	11.11	11.11	35.00	1.11	1.11	0.00	1493
90	11.11	11.11	35.00	1.11	1.11	0.00	1493
91	11.11	11.11	35.00	1.11	1.11	0.00	1493
92	11.11	11.11	35.00	1.11	1.11	0.00	1493
93	11.11	11.11	35.00	1.11	1.11	0.00	1493
94	11.11	11.11	35.00	1.11	1.11	0.00	1493
95	11.11	11.11	35.00	1.11	1.11	0.00	1493
96	11.11	11.11	35.00	1.11	1.11	0.00	1493
97	11.11	11.11	35.00	1.11	1.11	0.00	1493
98	11.11	11.11	35.00	1.11	1.11	0.00	1493
99	11.11	11.11	35.00	1.11	1.11	0.00	1493
100	11.11	11.11	35.00	1.11	1.11	0.00	1493

DEPTH	TEMP	SALIN
0	-1.56	30.04
5.6	-0.69	
733.7		

BUT NUM = 1	BUT NUM = 2
1	2





BLUE FOX STATION 103(1) CTD 14/AUG/1975 1800 GMT CODE = 3  
LAT = 74.8394N LNG = 137.2599W LTER = 1 LGER = 2  
AIR TEMP = 1.0 BAROM = 1015.8 WIND = 164.7 SPEED = 108.8

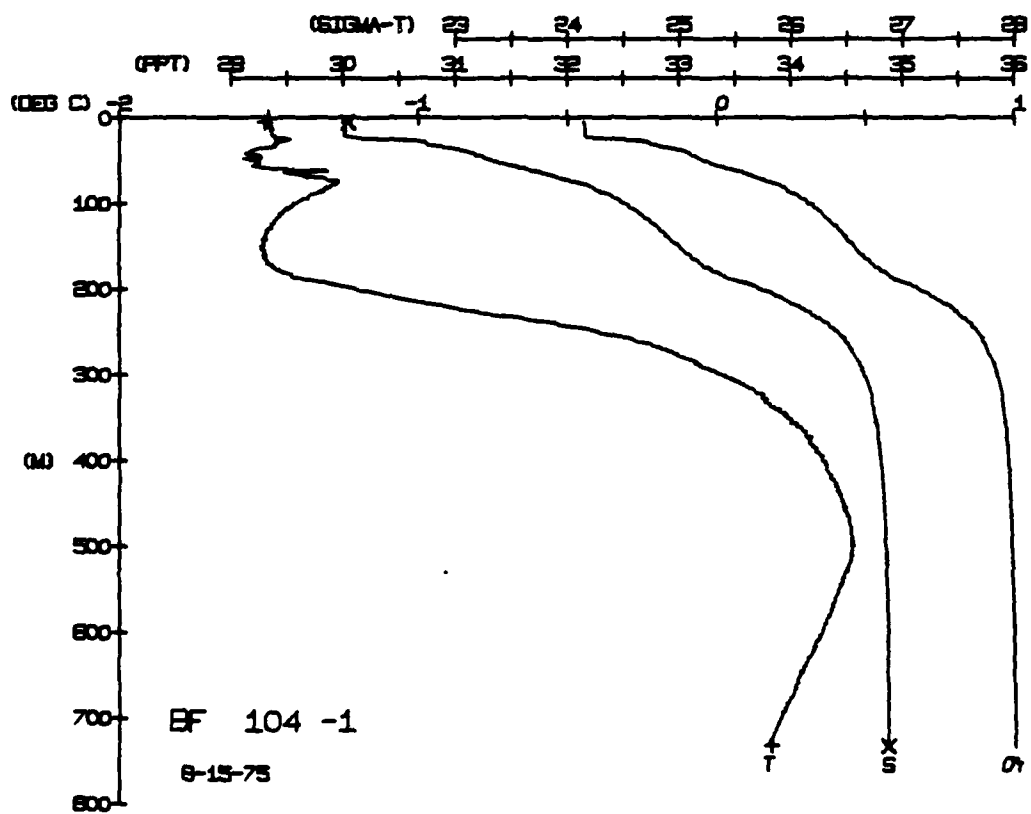
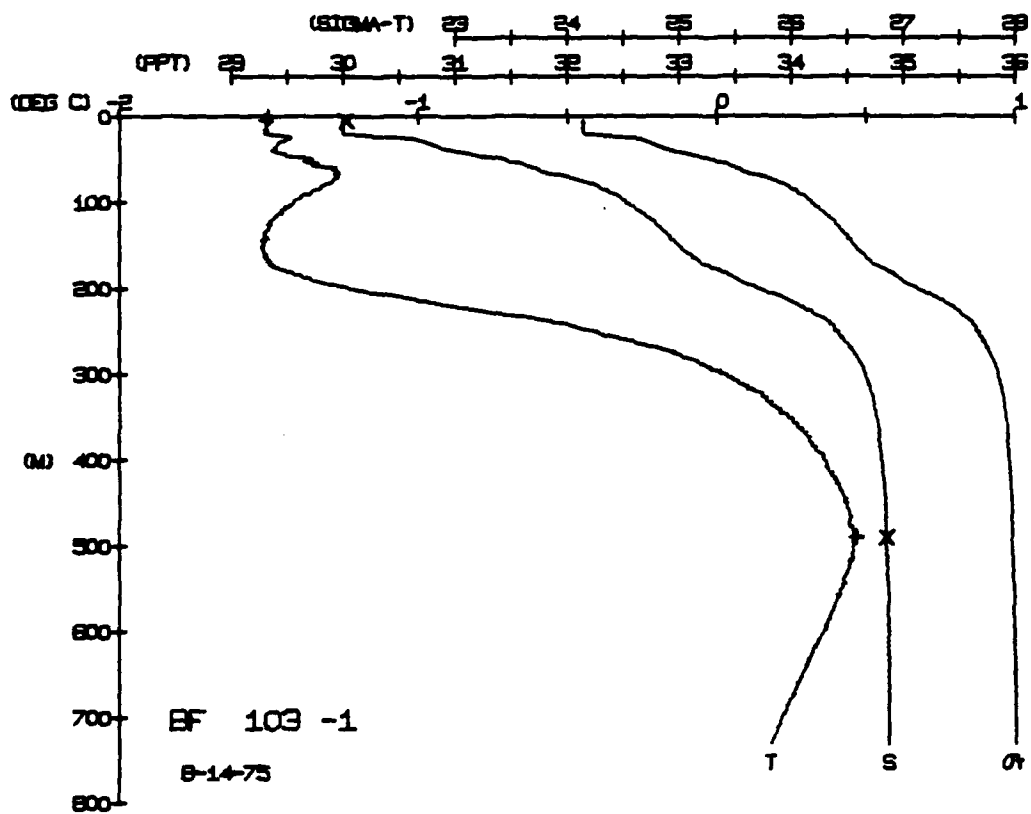
DEPTH	TEMP	PTEMP	SALIN	SIG T	SPVOL	DYNHT	SOUND
0	5.1	5.1	34.86	1.1	1.1	1.1	1.1
10	5.1	5.1	34.86	1.1	1.1	1.1	1.1
20	5.1	5.1	34.86	1.1	1.1	1.1	1.1
30	5.1	5.1	34.86	1.1	1.1	1.1	1.1
40	5.1	5.1	34.86	1.1	1.1	1.1	1.1
50	5.1	5.1	34.86	1.1	1.1	1.1	1.1
60	5.1	5.1	34.86	1.1	1.1	1.1	1.1
70	5.1	5.1	34.86	1.1	1.1	1.1	1.1
80	5.1	5.1	34.86	1.1	1.1	1.1	1.1
90	5.1	5.1	34.86	1.1	1.1	1.1	1.1
100	5.1	5.1	34.86	1.1	1.1	1.1	1.1
110	5.1	5.1	34.86	1.1	1.1	1.1	1.1
120	5.1	5.1	34.86	1.1	1.1	1.1	1.1
130	5.1	5.1	34.86	1.1	1.1	1.1	1.1
140	5.1	5.1	34.86	1.1	1.1	1.1	1.1
150	5.1	5.1	34.86	1.1	1.1	1.1	1.1
160	5.1	5.1	34.86	1.1	1.1	1.1	1.1
170	5.1	5.1	34.86	1.1	1.1	1.1	1.1
180	5.1	5.1	34.86	1.1	1.1	1.1	1.1
190	5.1	5.1	34.86	1.1	1.1	1.1	1.1
200	5.1	5.1	34.86	1.1	1.1	1.1	1.1
210	5.1	5.1	34.86	1.1	1.1	1.1	1.1
220	5.1	5.1	34.86	1.1	1.1	1.1	1.1
230	5.1	5.1	34.86	1.1	1.1	1.1	1.1
240	5.1	5.1	34.86	1.1	1.1	1.1	1.1
250	5.1	5.1	34.86	1.1	1.1	1.1	1.1
260	5.1	5.1	34.86	1.1	1.1	1.1	1.1
270	5.1	5.1	34.86	1.1	1.1	1.1	1.1
280	5.1	5.1	34.86	1.1	1.1	1.1	1.1
290	5.1	5.1	34.86	1.1	1.1	1.1	1.1
300	5.1	5.1	34.86	1.1	1.1	1.1	1.1
310	5.1	5.1	34.86	1.1	1.1	1.1	1.1
320	5.1	5.1	34.86	1.1	1.1	1.1	1.1
330	5.1	5.1	34.86	1.1	1.1	1.1	1.1
340	5.1	5.1	34.86	1.1	1.1	1.1	1.1
350	5.1	5.1	34.86	1.1	1.1	1.1	1.1
360	5.1	5.1	34.86	1.1	1.1	1.1	1.1
370	5.1	5.1	34.86	1.1	1.1	1.1	1.1
380	5.1	5.1	34.86	1.1	1.1	1.1	1.1
390	5.1	5.1	34.86	1.1	1.1	1.1	1.1
400	5.1	5.1	34.86	1.1	1.1	1.1	1.1
410	5.1	5.1	34.86	1.1	1.1	1.1	1.1
420	5.1	5.1	34.86	1.1	1.1	1.1	1.1
430	5.1	5.1	34.86	1.1	1.1	1.1	1.1
440	5.1	5.1	34.86	1.1	1.1	1.1	1.1
450	5.1	5.1	34.86	1.1	1.1	1.1	1.1
460	5.1	5.1	34.86	1.1	1.1	1.1	1.1
470	5.1	5.1	34.86	1.1	1.1	1.1	1.1
480	5.1	5.1	34.86	1.1	1.1	1.1	1.1
490	5.1	5.1	34.86	1.1	1.1	1.1	1.1
500	5.1	5.1	34.86	1.1	1.1	1.1	1.1

DEPTH 5.1 490.0  
TEMP -1.51 0.47  
SALIN 30.02 34.86  
BUT NUM = 1  
BUT NUM = 2

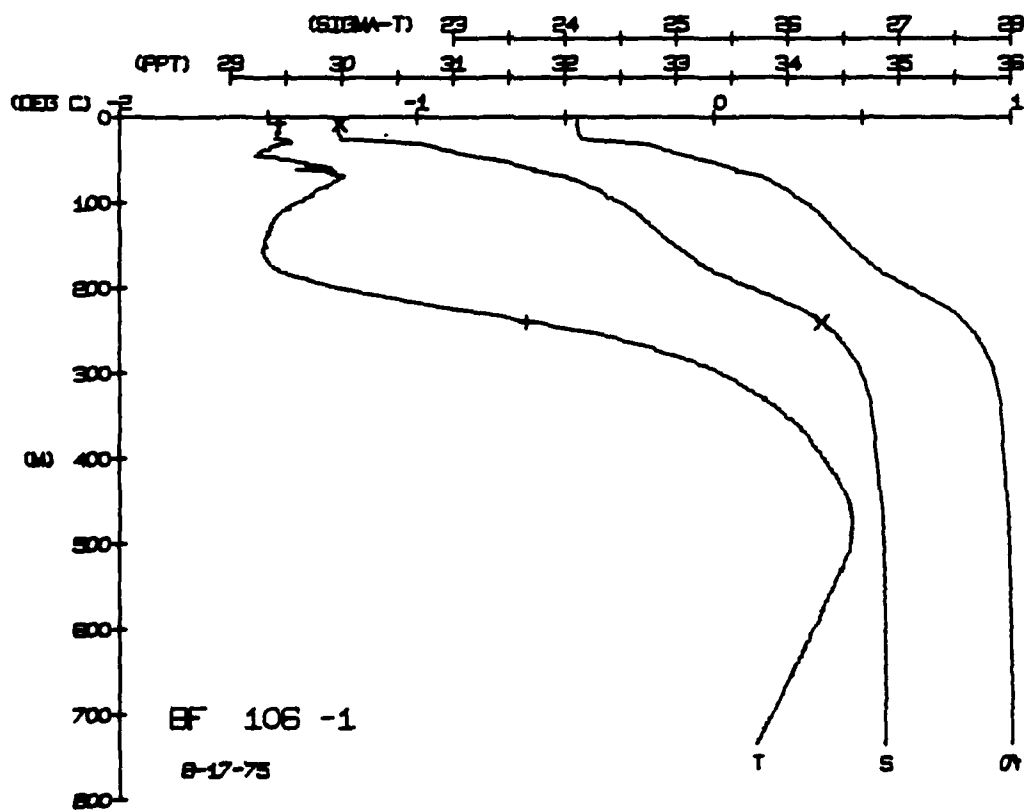
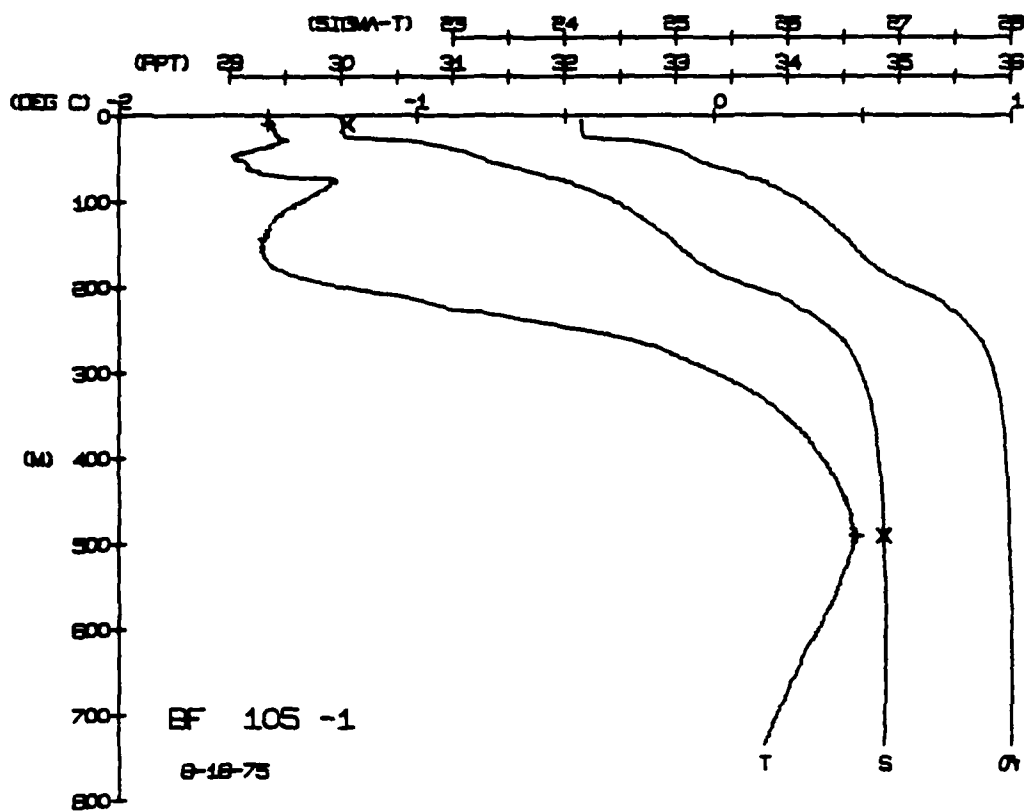
BLUE FOX STATION 104(1) CTD 15/AUG/1975 1805 GMT CODE = 3  
LAT = 74.8303N LNG = 137.1354W LTER = 0 LGER = 0  
AIR TEMP = 0.8 BAROM = 1014.2 WIND = 80.2 SPEED = 28.5

DEPTH	TEMP	PTEMP	SALIN	SIG T	SPVOL	DYNHT	SOUND
0	5.1	5.1	34.86	1.1	1.1	1.1	1.1
10	5.1	5.1	34.86	1.1	1.1	1.1	1.1
20	5.1	5.1	34.86	1.1	1.1	1.1	1.1
30	5.1	5.1	34.86	1.1	1.1	1.1	1.1
40	5.1	5.1	34.86	1.1	1.1	1.1	1.1
50	5.1	5.1	34.86	1.1	1.1	1.1	1.1
60	5.1	5.1	34.86	1.1	1.1	1.1	1.1
70	5.1	5.1	34.86	1.1	1.1	1.1	1.1
80	5.1	5.1	34.86	1.1	1.1	1.1	1.1
90	5.1	5.1	34.86	1.1	1.1	1.1	1.1
100	5.1	5.1	34.86	1.1	1.1	1.1	1.1
110	5.1	5.1	34.86	1.1	1.1	1.1	1.1
120	5.1	5.1	34.86	1.1	1.1	1.1	1.1
130	5.1	5.1	34.86	1.1	1.1	1.1	1.1
140	5.1	5.1	34.86	1.1	1.1	1.1	1.1
150	5.1	5.1	34.86	1.1	1.1	1.1	1.1
160	5.1	5.1	34.86	1.1	1.1	1.1	1.1
170	5.1	5.1	34.86	1.1	1.1	1.1	1.1
180	5.1	5.1	34.86	1.1	1.1	1.1	1.1
190	5.1	5.1	34.86	1.1	1.1	1.1	1.1
200	5.1	5.1	34.86	1.1	1.1	1.1	1.1
210	5.1	5.1	34.86	1.1	1.1	1.1	1.1
220	5.1	5.1	34.86	1.1	1.1	1.1	1.1
230	5.1	5.1	34.86	1.1	1.1	1.1	1.1
240	5.1	5.1	34.86	1.1	1.1	1.1	1.1
250	5.1	5.1	34.86	1.1	1.1	1.1	1.1
260	5.1	5.1	34.86	1.1	1.1	1.1	1.1
270	5.1	5.1	34.86	1.1	1.1	1.1	1.1
280	5.1	5.1	34.86	1.1	1.1	1.1	1.1
290	5.1	5.1	34.86	1.1	1.1	1.1	1.1
300	5.1	5.1	34.86	1.1	1.1	1.1	1.1
310	5.1	5.1	34.86	1.1	1.1	1.1	1.1
320	5.1	5.1	34.86	1.1	1.1	1.1	1.1
330	5.1	5.1	34.86	1.1	1.1	1.1	1.1
340	5.1	5.1	34.86	1.1	1.1	1.1	1.1
350	5.1	5.1	34.86	1.1	1.1	1.1	1.1
360	5.1	5.1	34.86	1.1	1.1	1.1	1.1
370	5.1	5.1	34.86	1.1	1.1	1.1	1.1
380	5.1	5.1	34.86	1.1	1.1	1.1	1.1
390	5.1	5.1	34.86	1.1	1.1	1.1	1.1
400	5.1	5.1	34.86	1.1	1.1	1.1	1.1
410	5.1	5.1	34.86	1.1	1.1	1.1	1.1
420	5.1	5.1	34.86	1.1	1.1	1.1	1.1
430	5.1	5.1	34.86	1.1	1.1	1.1	1.1
440	5.1	5.1	34.86	1.1	1.1	1.1	1.1
450	5.1	5.1	34.86	1.1	1.1	1.1	1.1
460	5.1	5.1	34.86	1.1	1.1	1.1	1.1
470	5.1	5.1	34.86	1.1	1.1	1.1	1.1
480	5.1	5.1	34.86	1.1	1.1	1.1	1.1
490	5.1	5.1	34.86	1.1	1.1	1.1	1.1
500	5.1	5.1	34.86	1.1	1.1	1.1	1.1

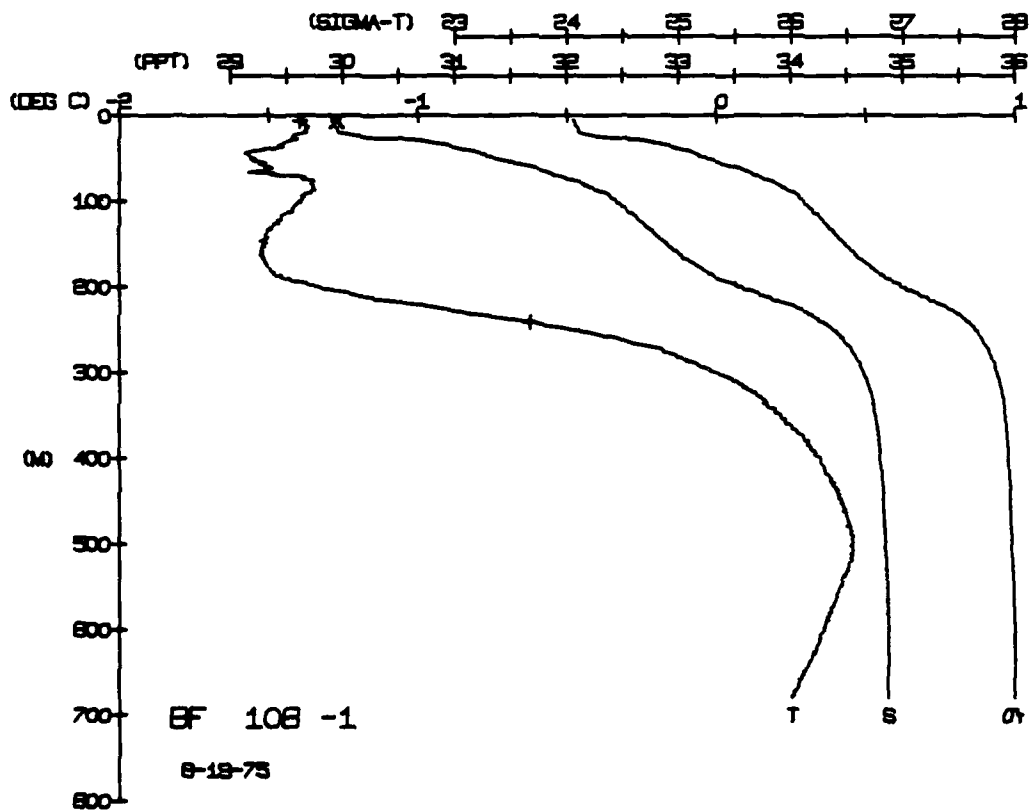
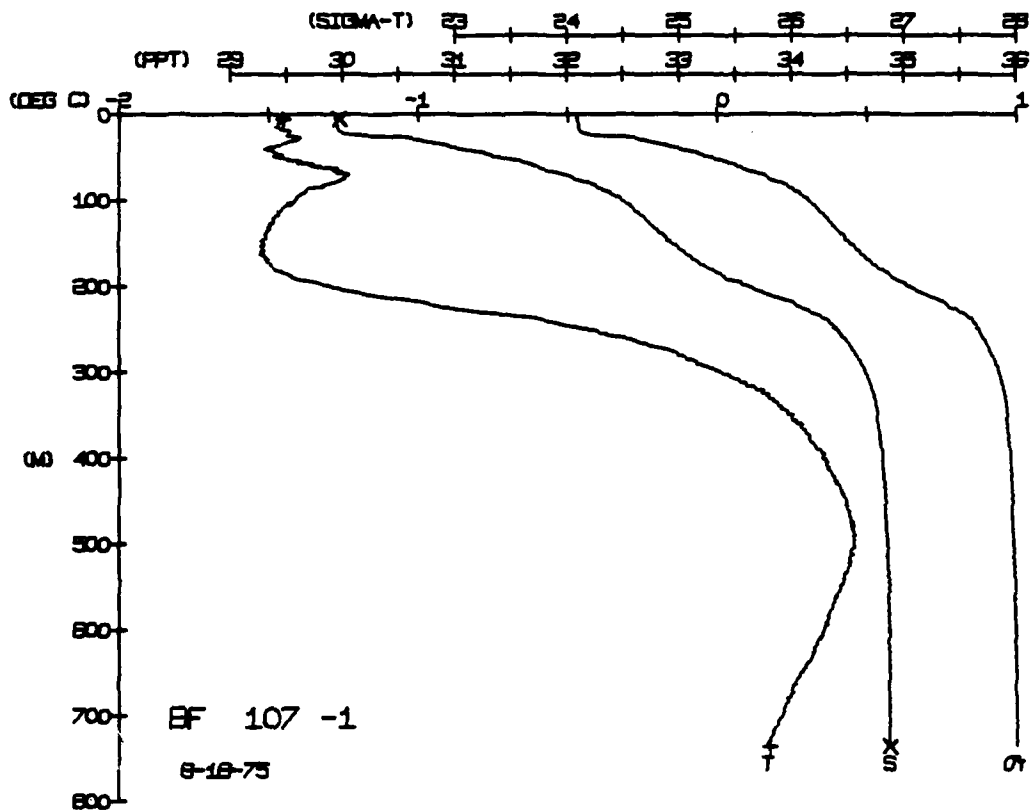
DEPTH 5.1 73.4  
TEMP -1.51 0.16  
SALIN 30.04 34.89  
BUT NUM = 1  
BUT NUM = 2



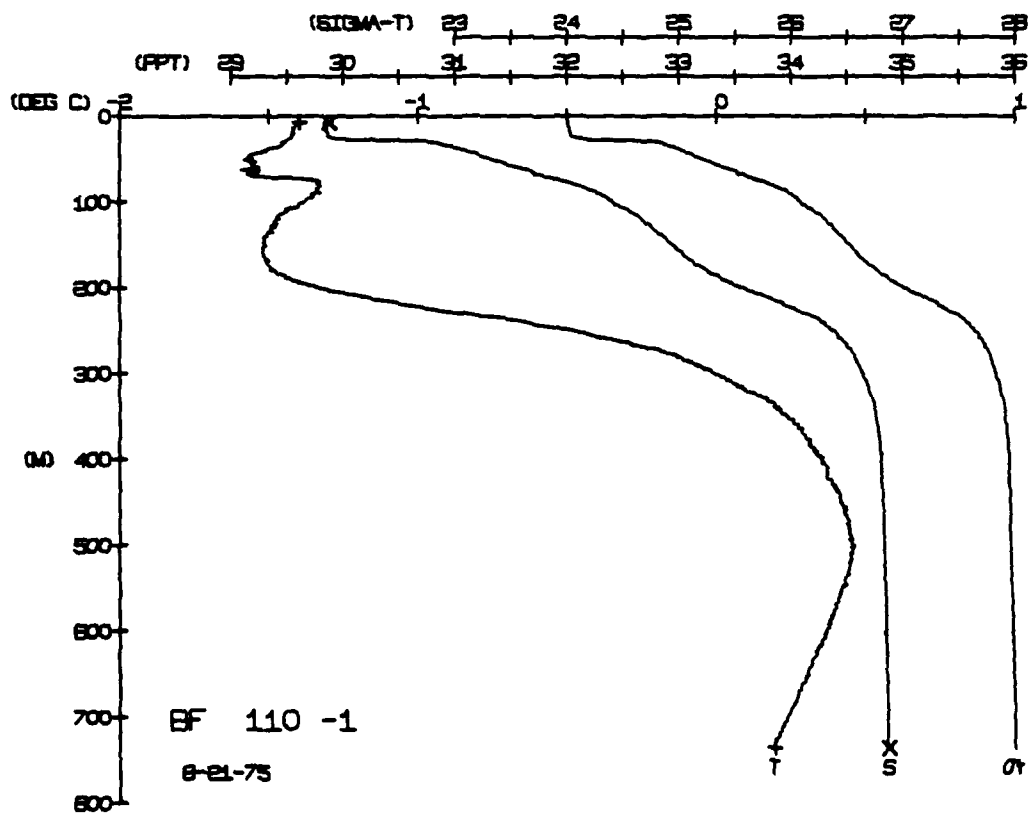
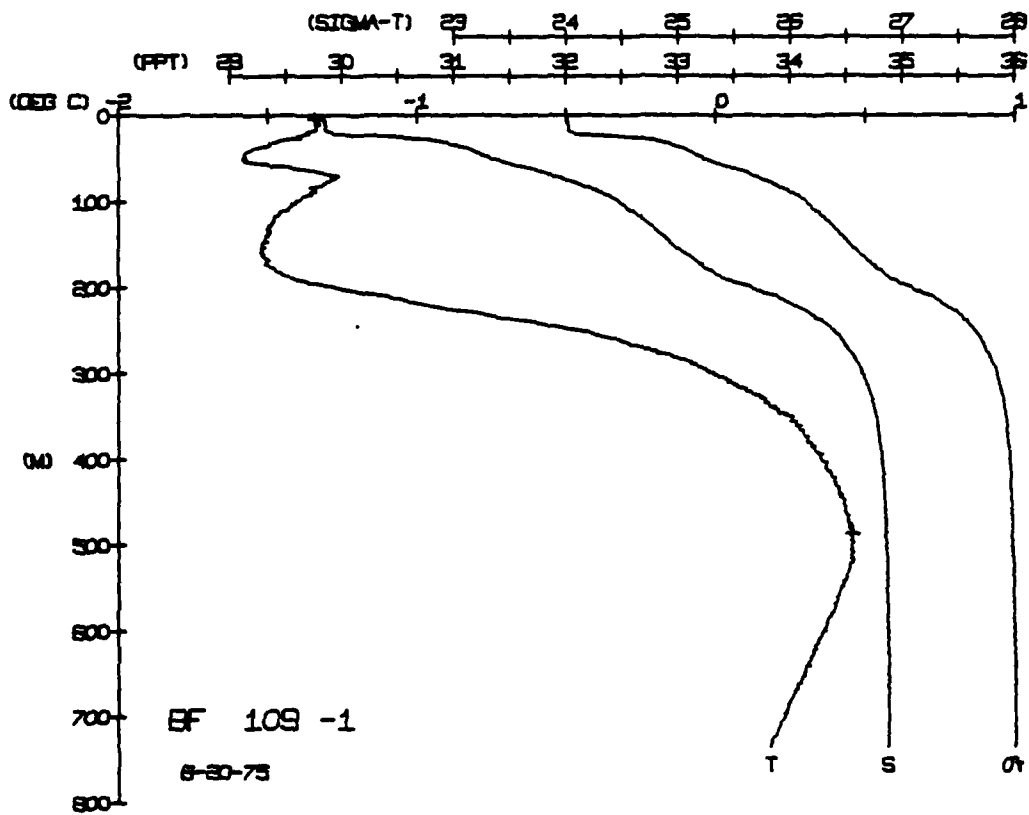






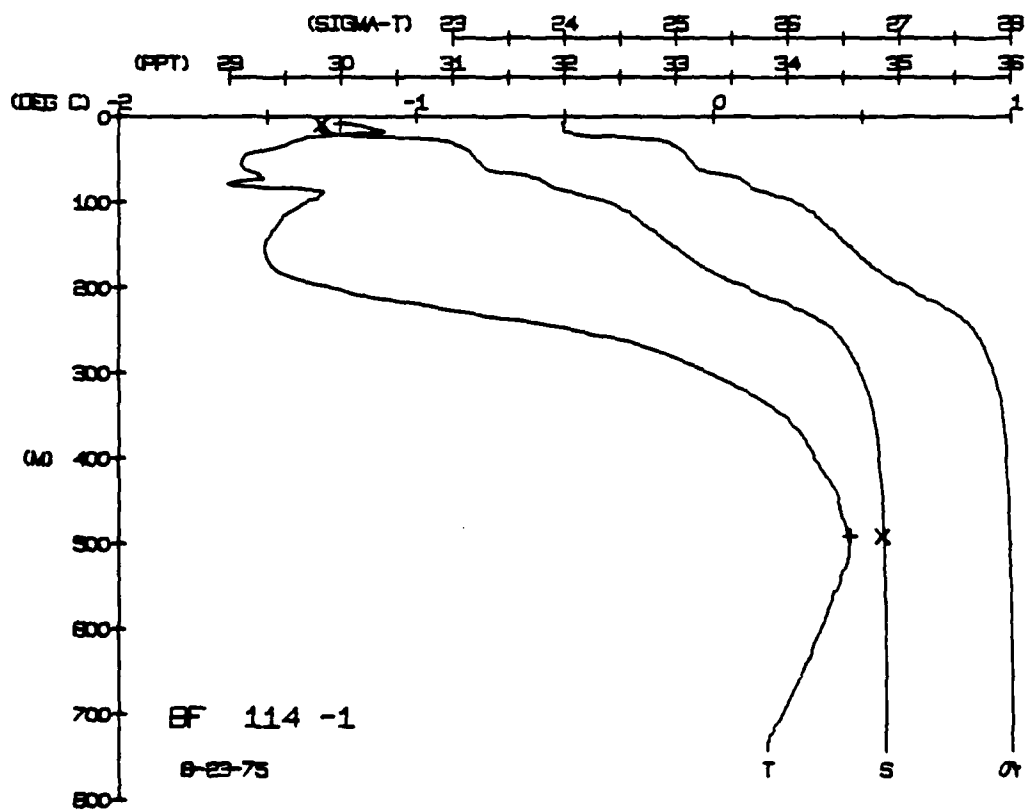
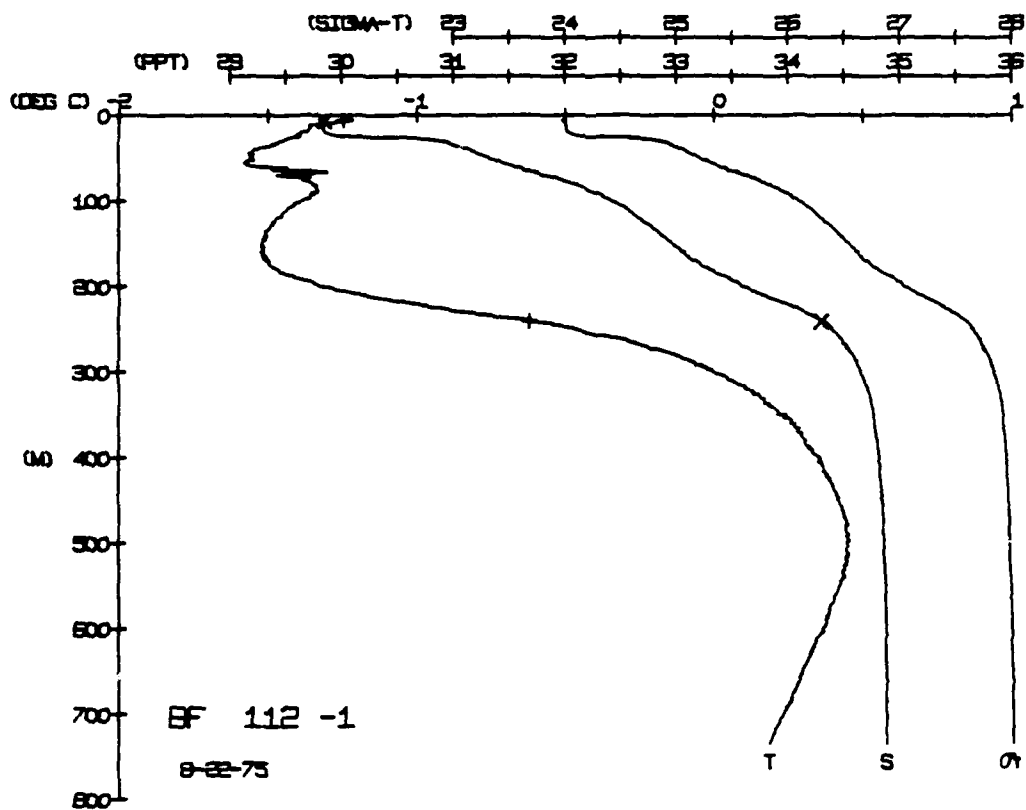




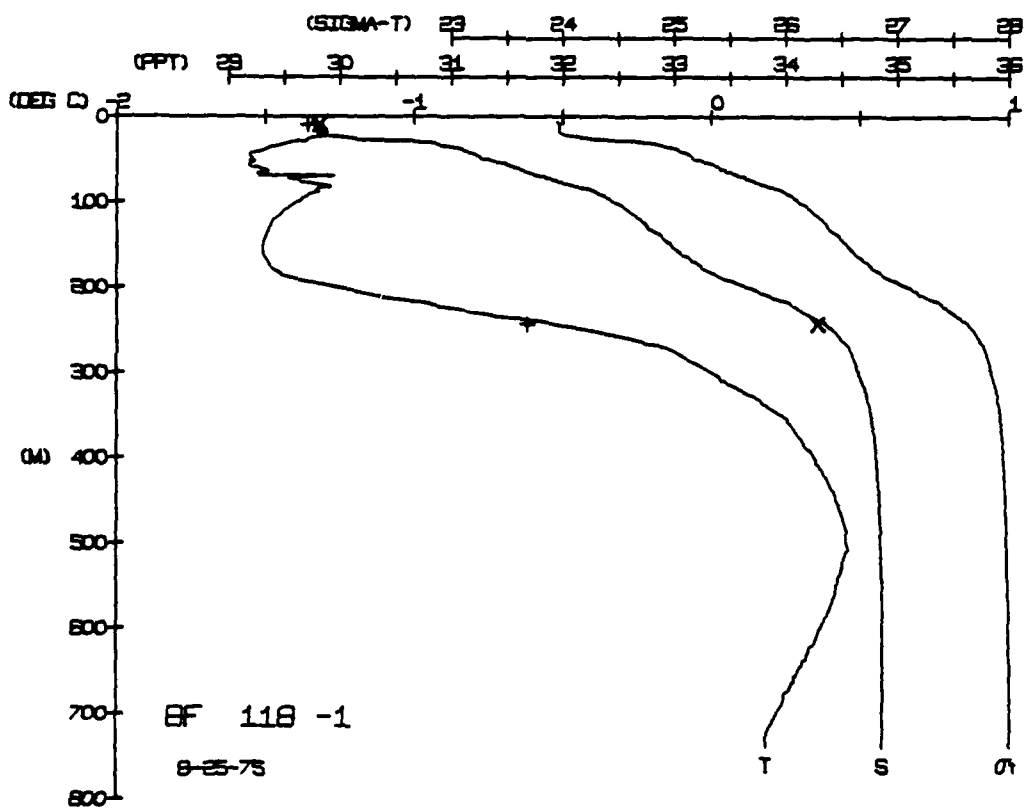
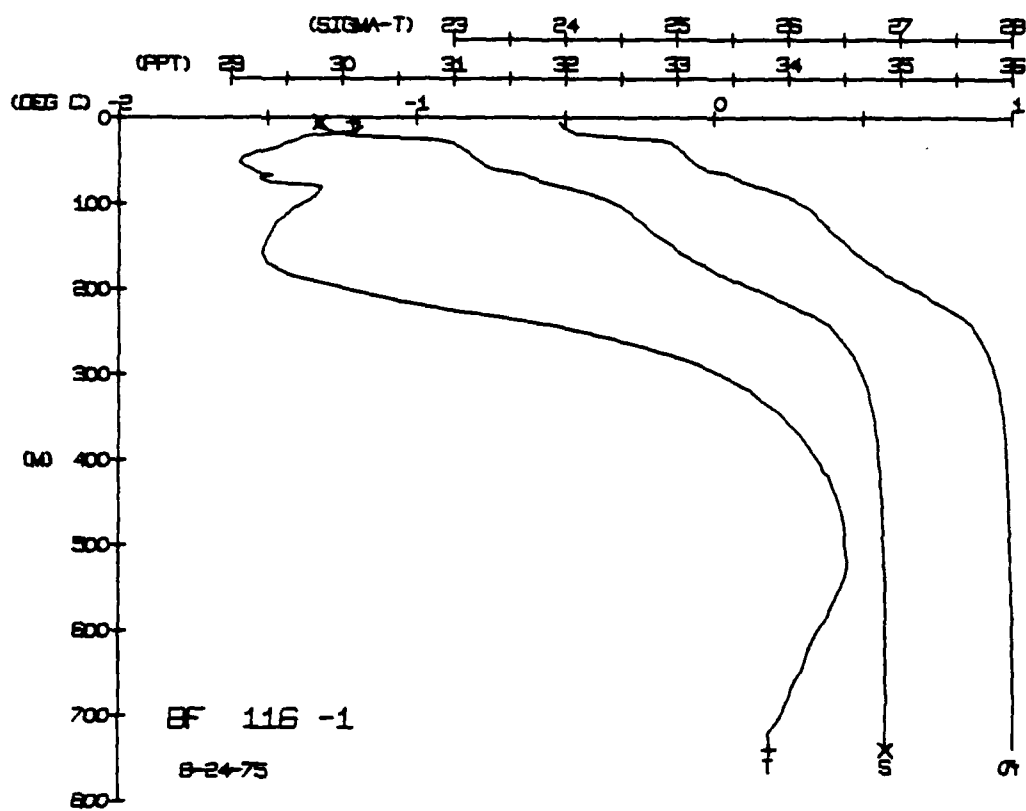




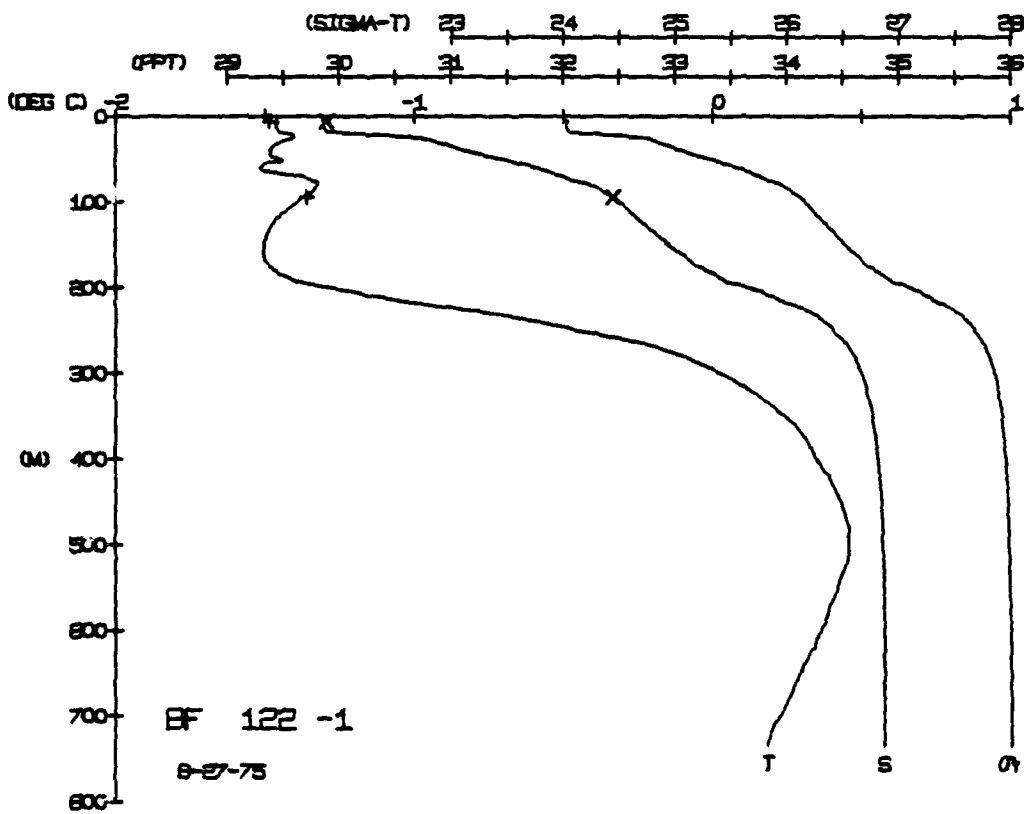
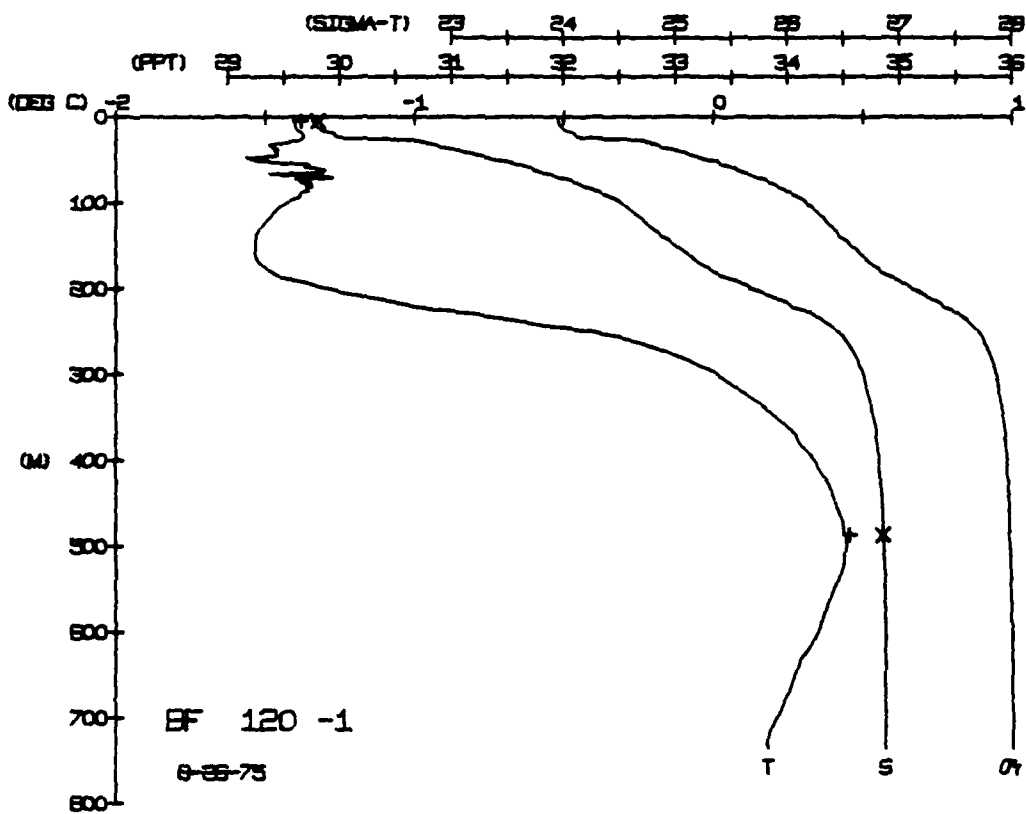




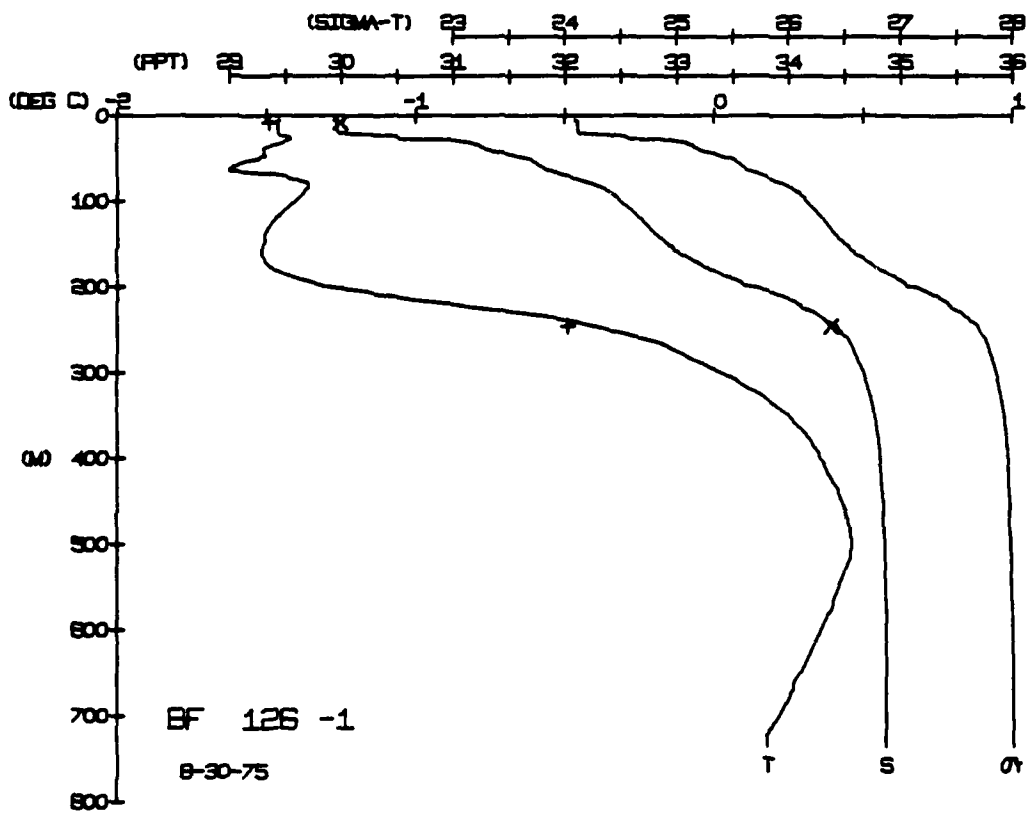
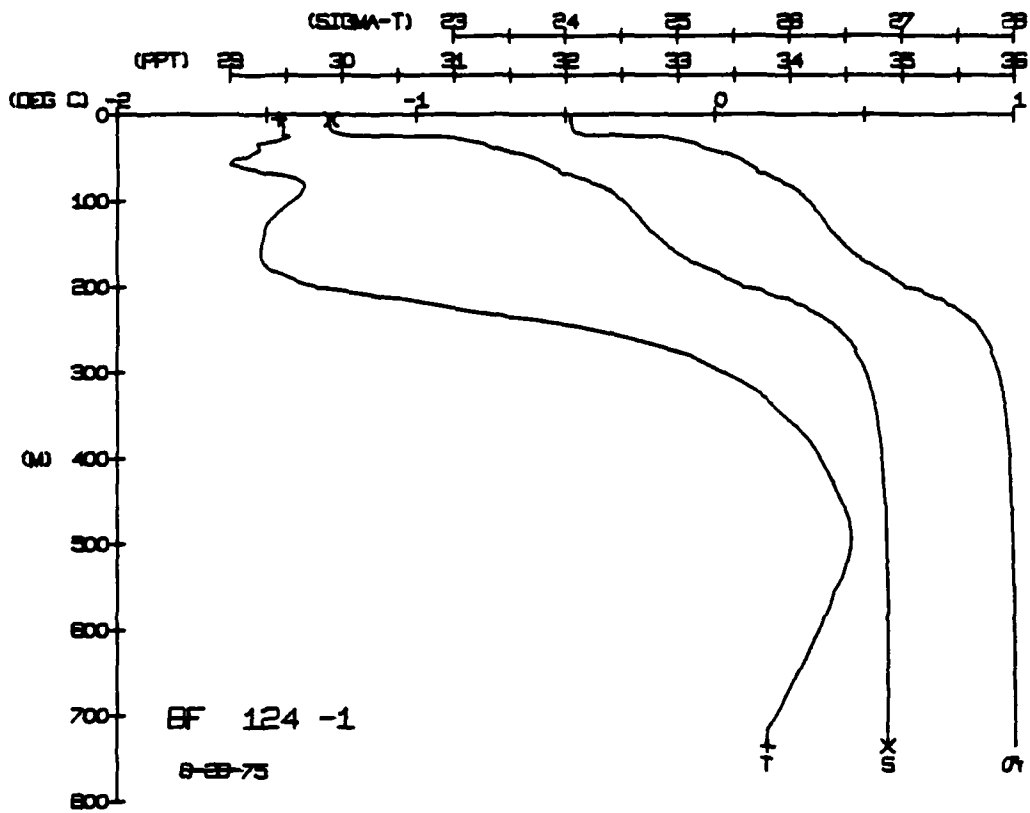






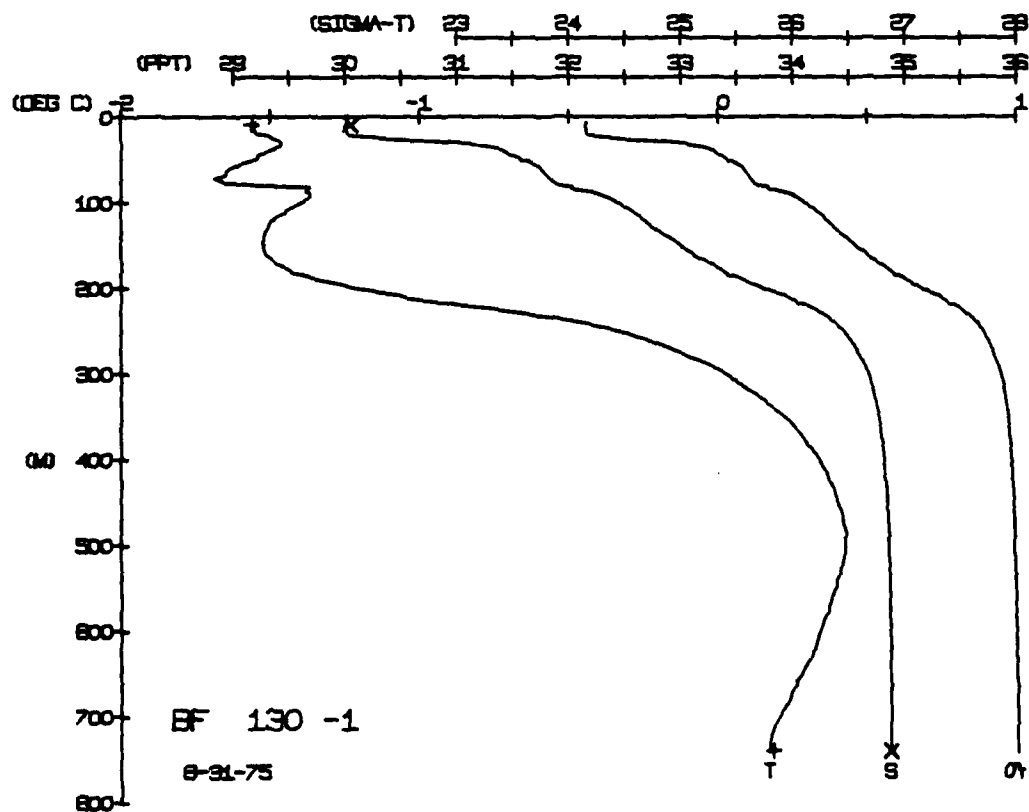
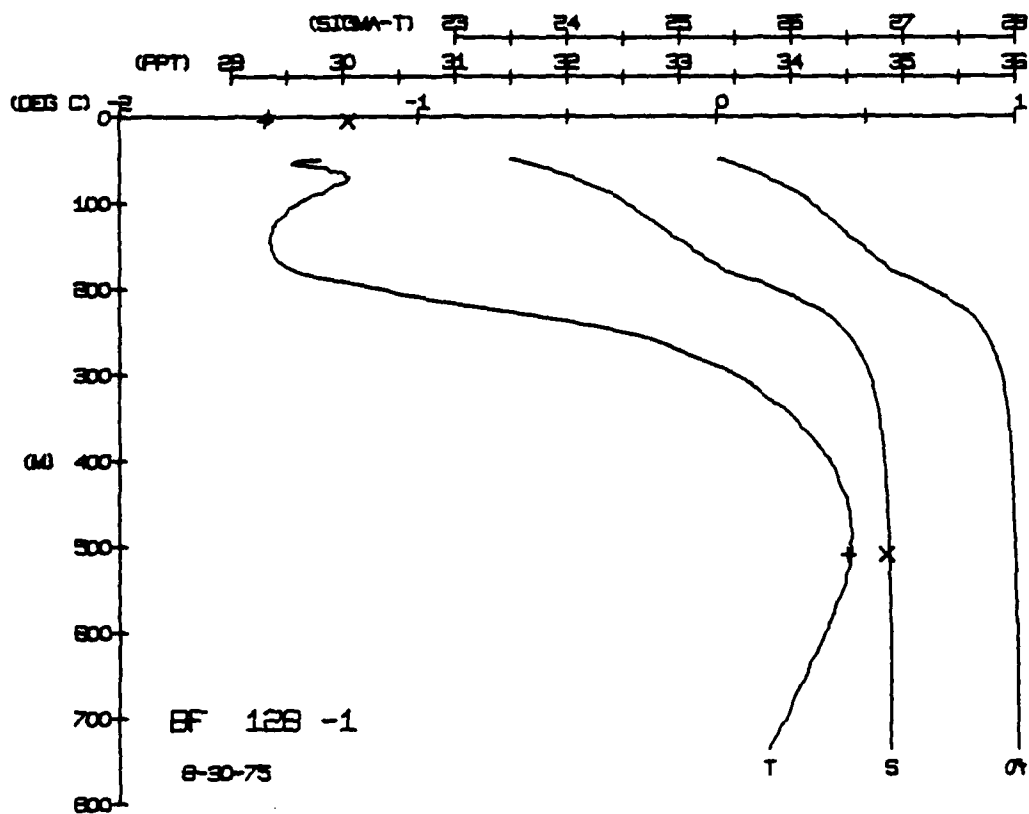




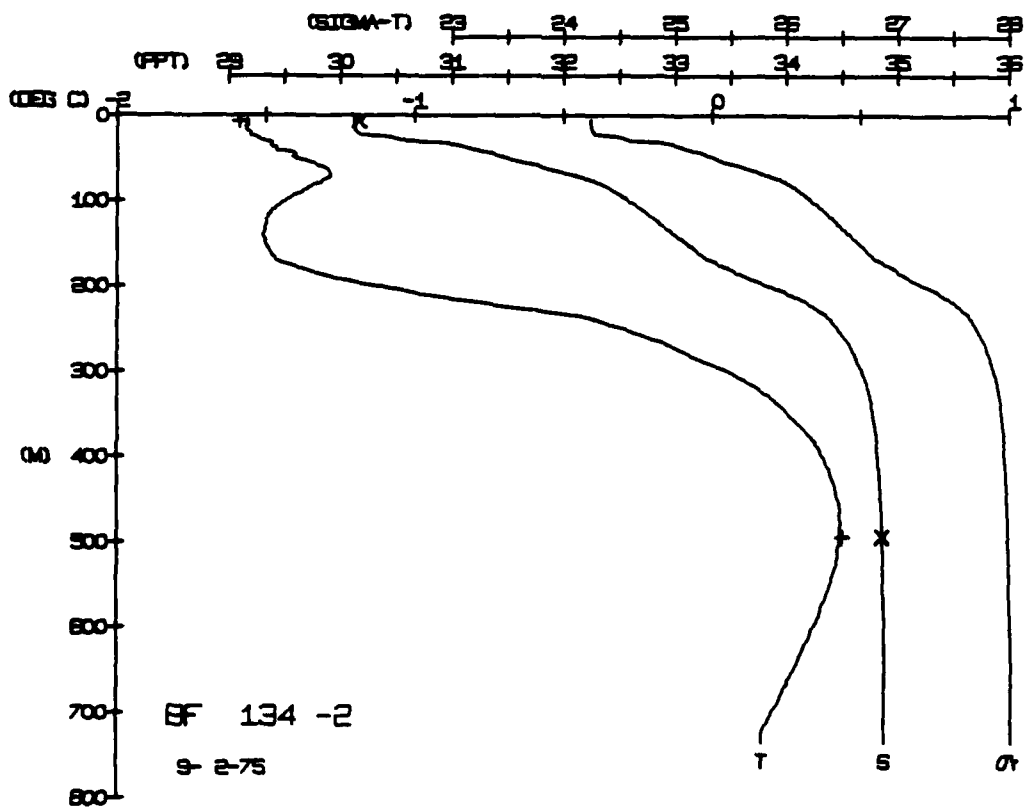
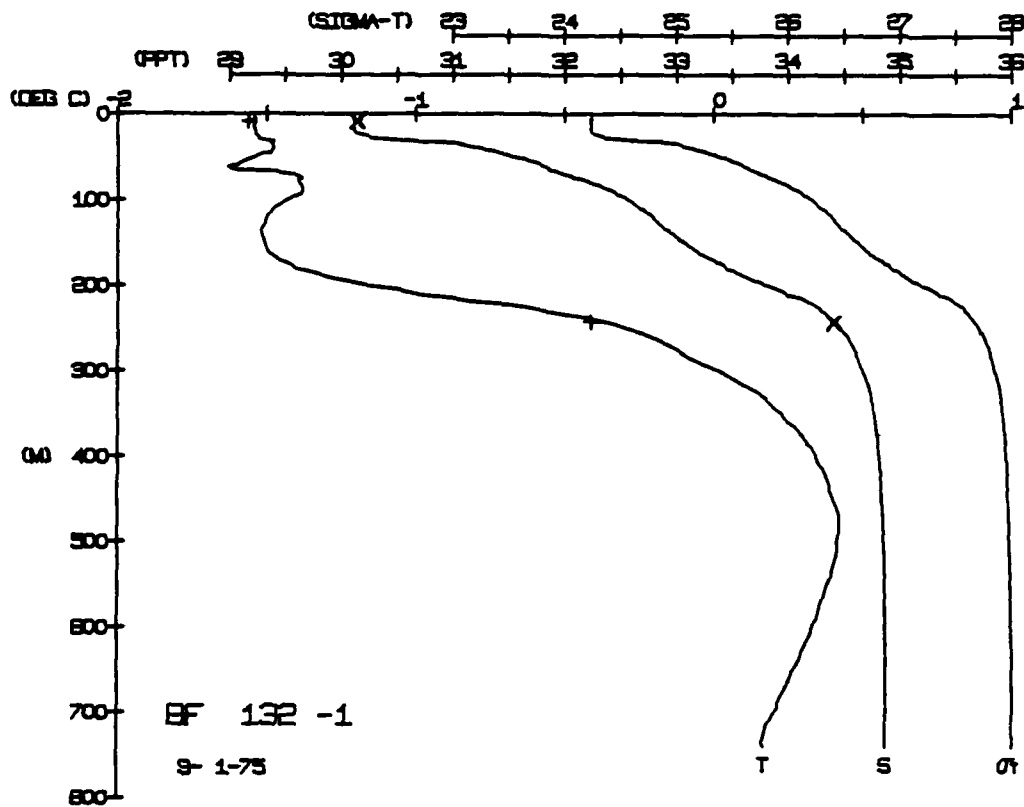




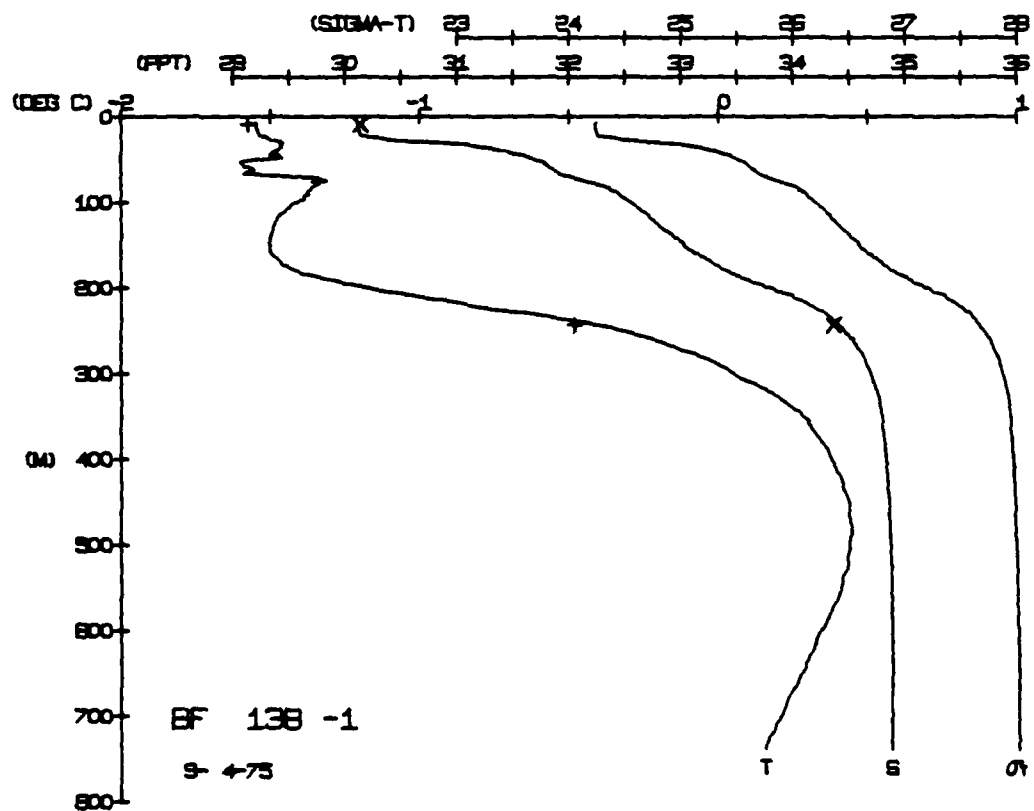
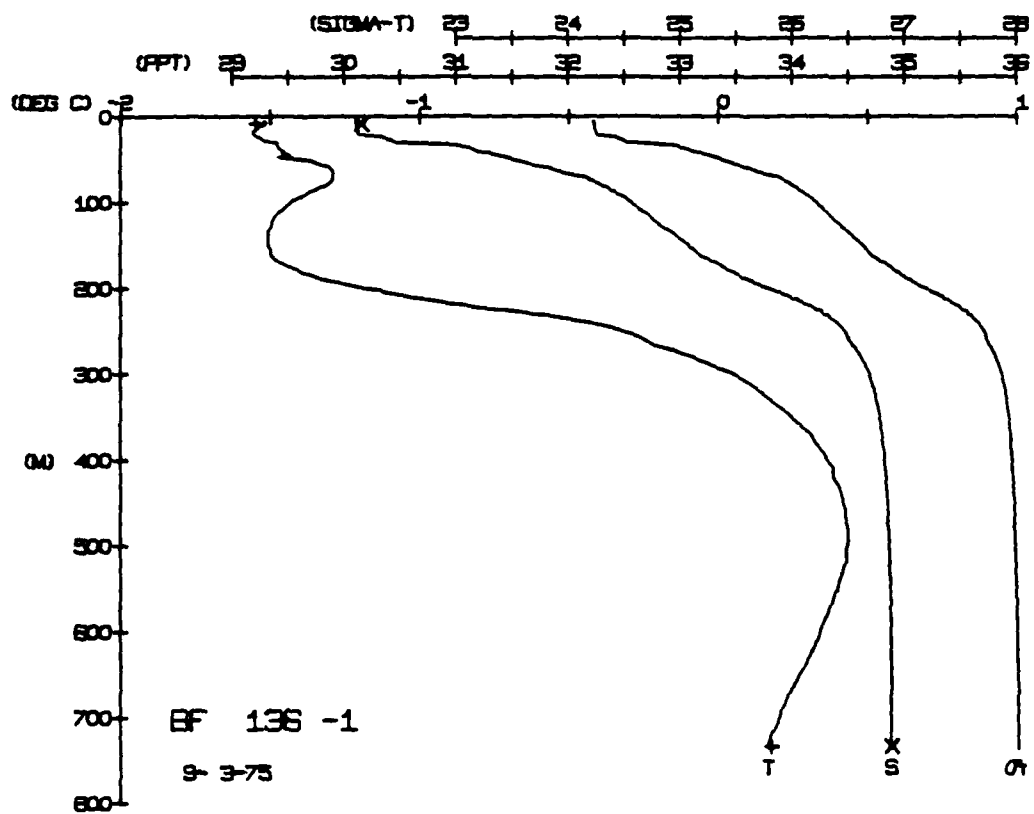




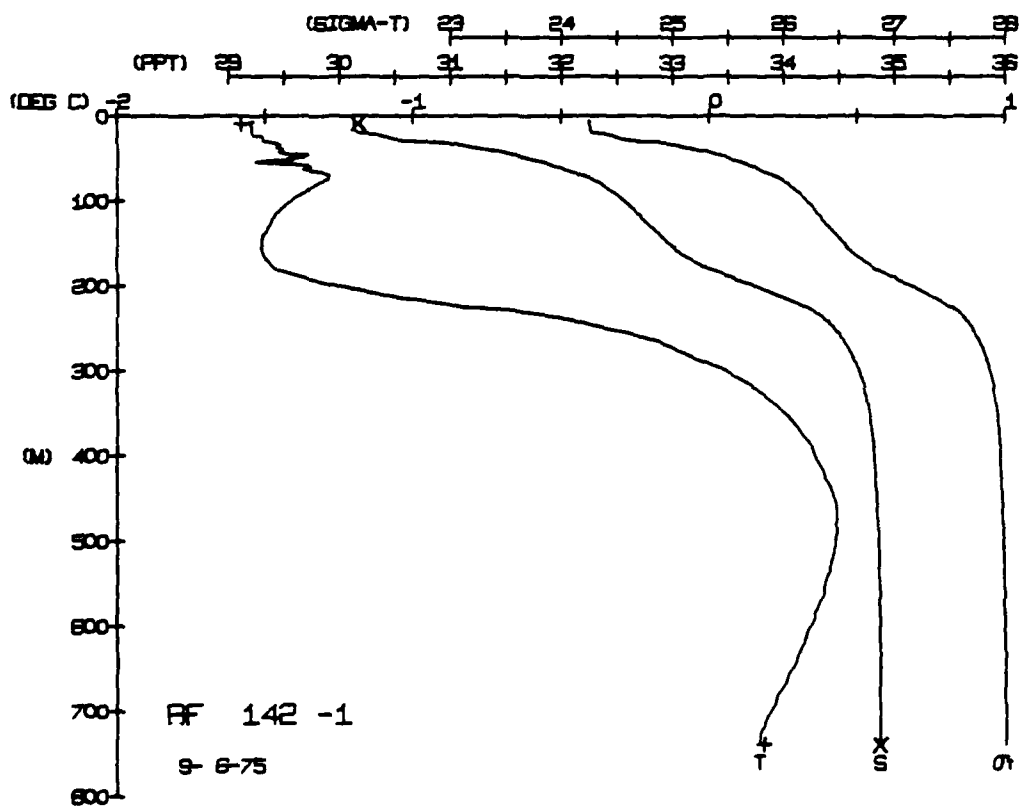
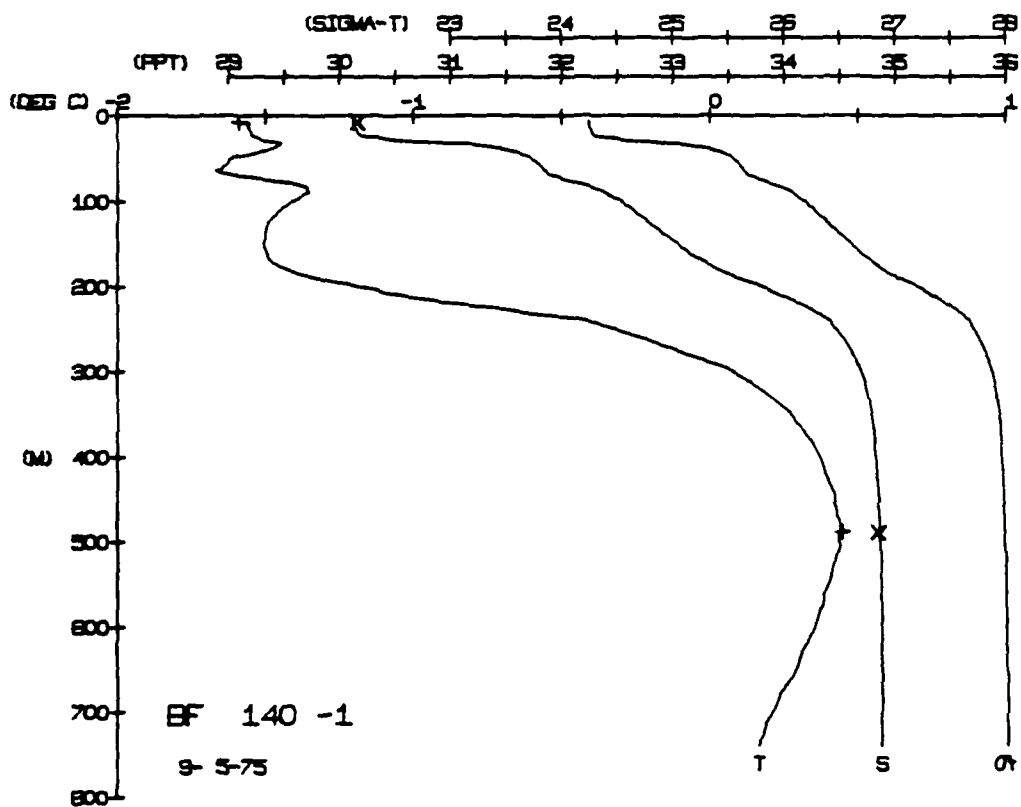






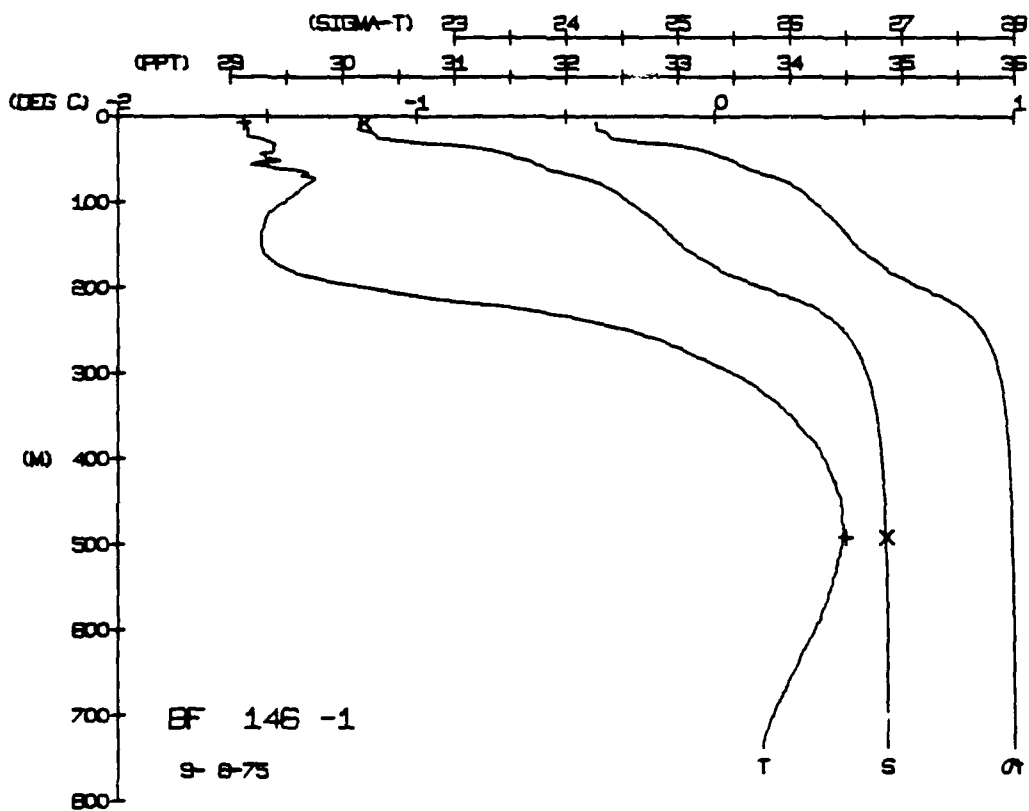
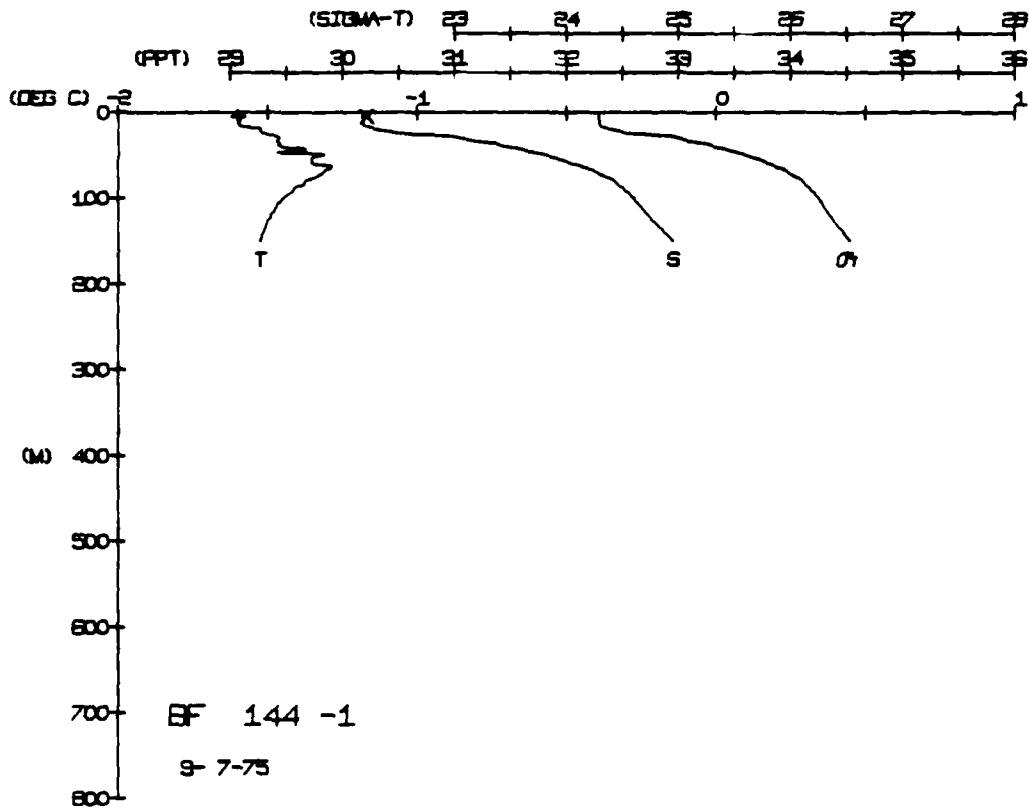




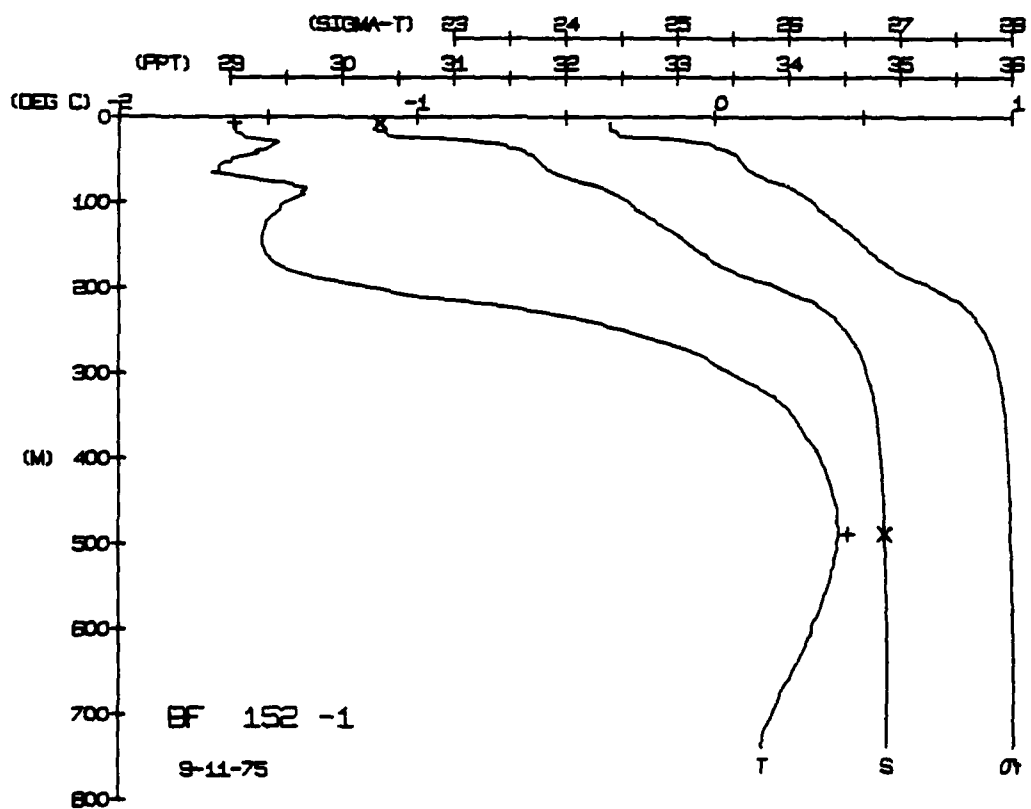
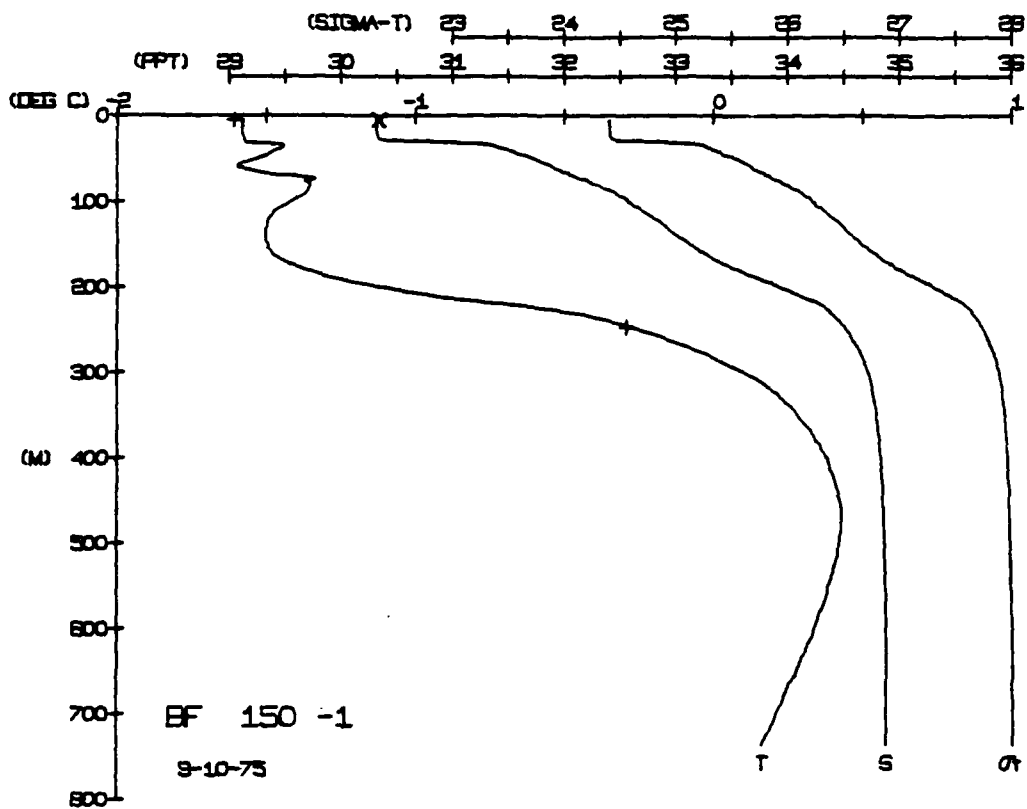




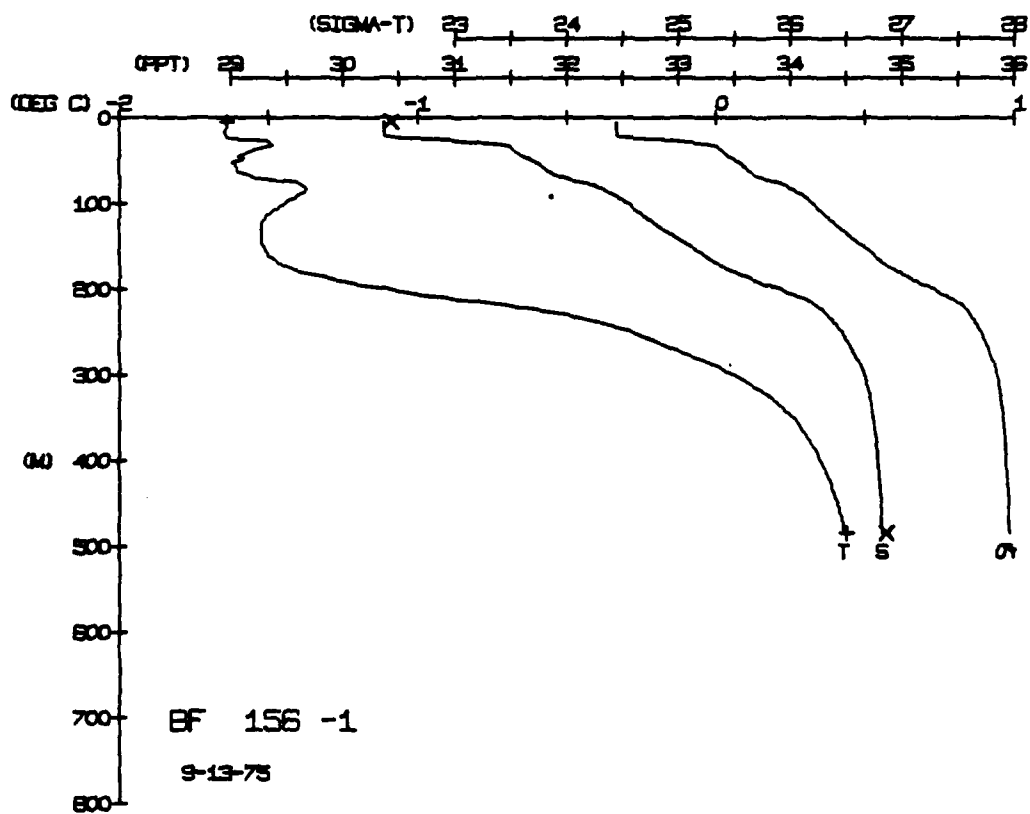
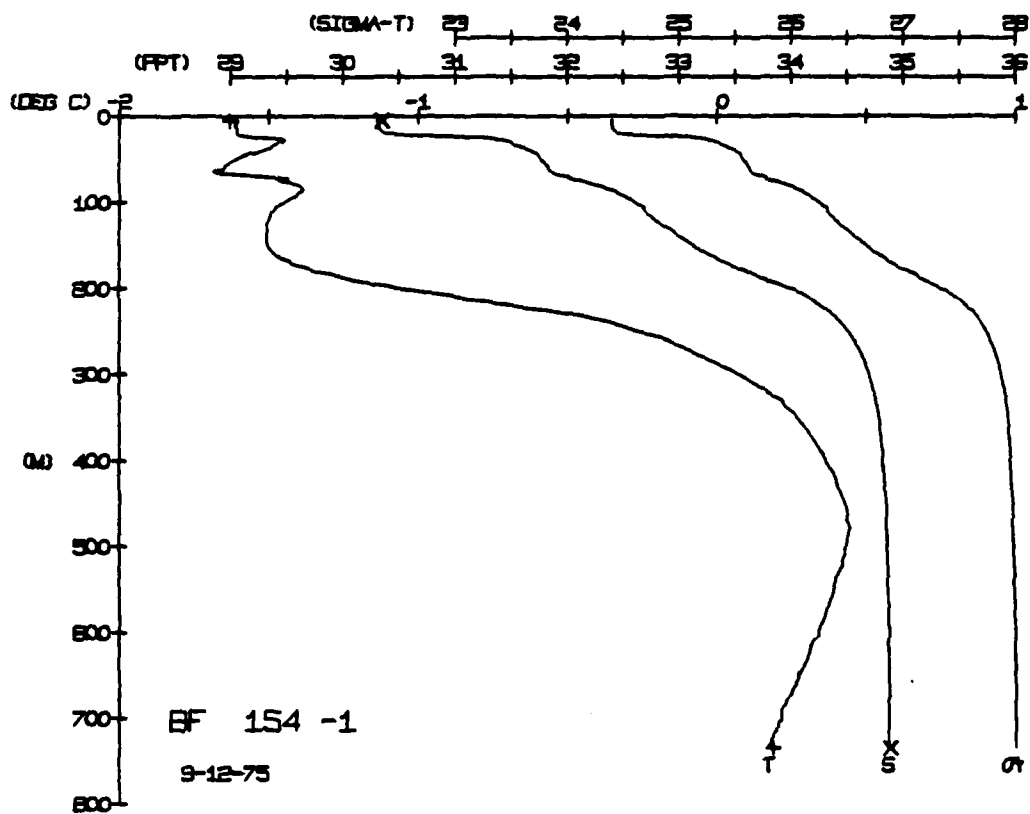




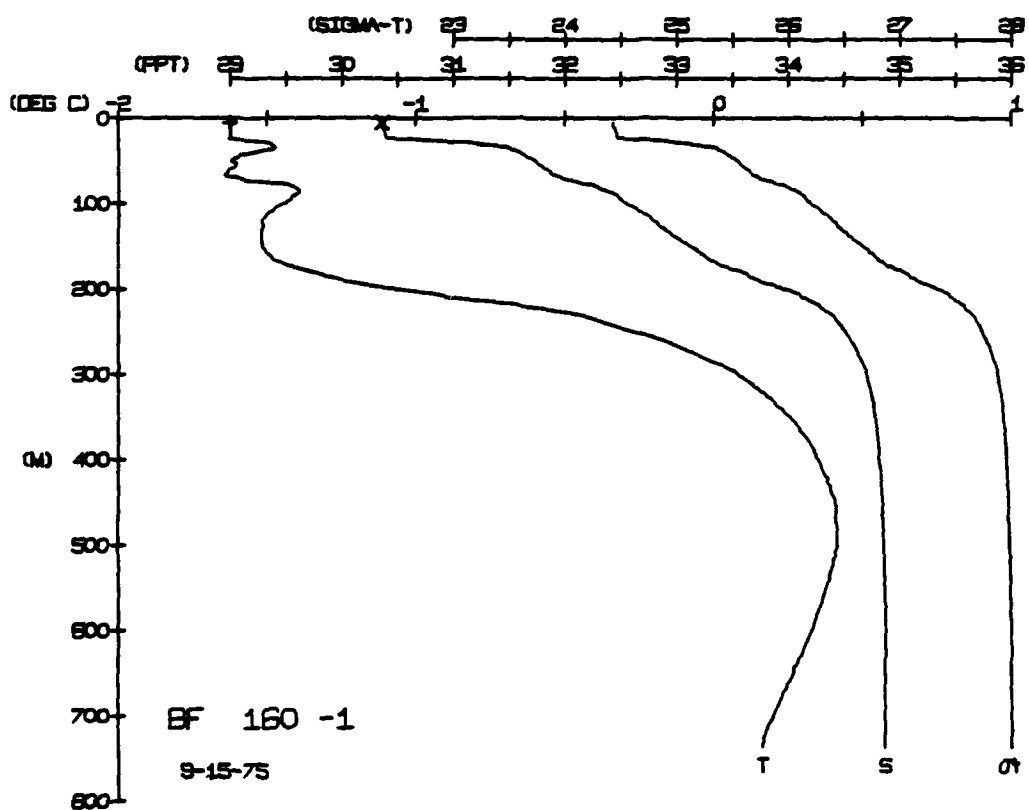
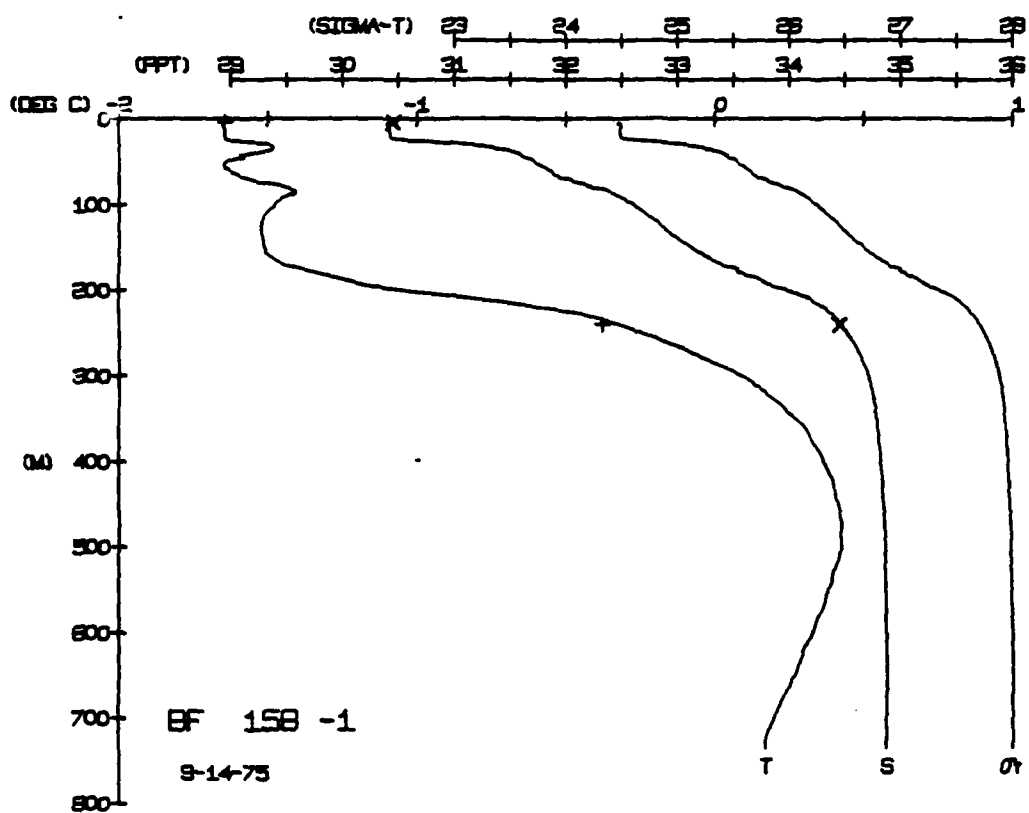






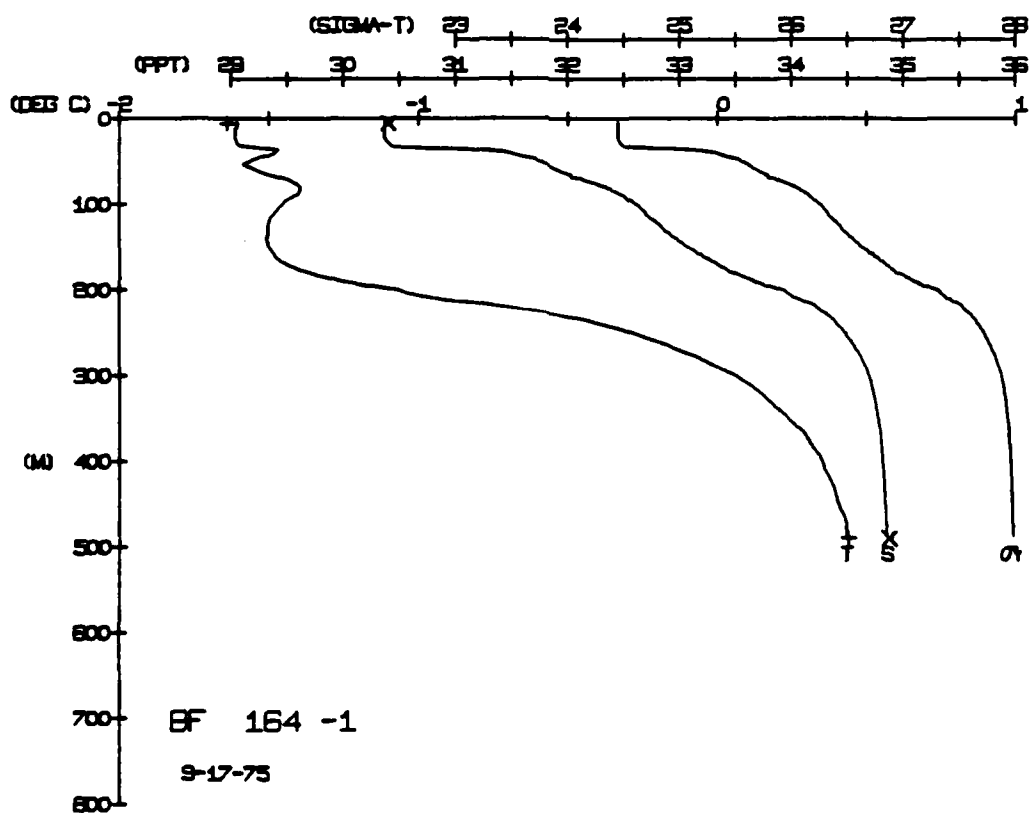
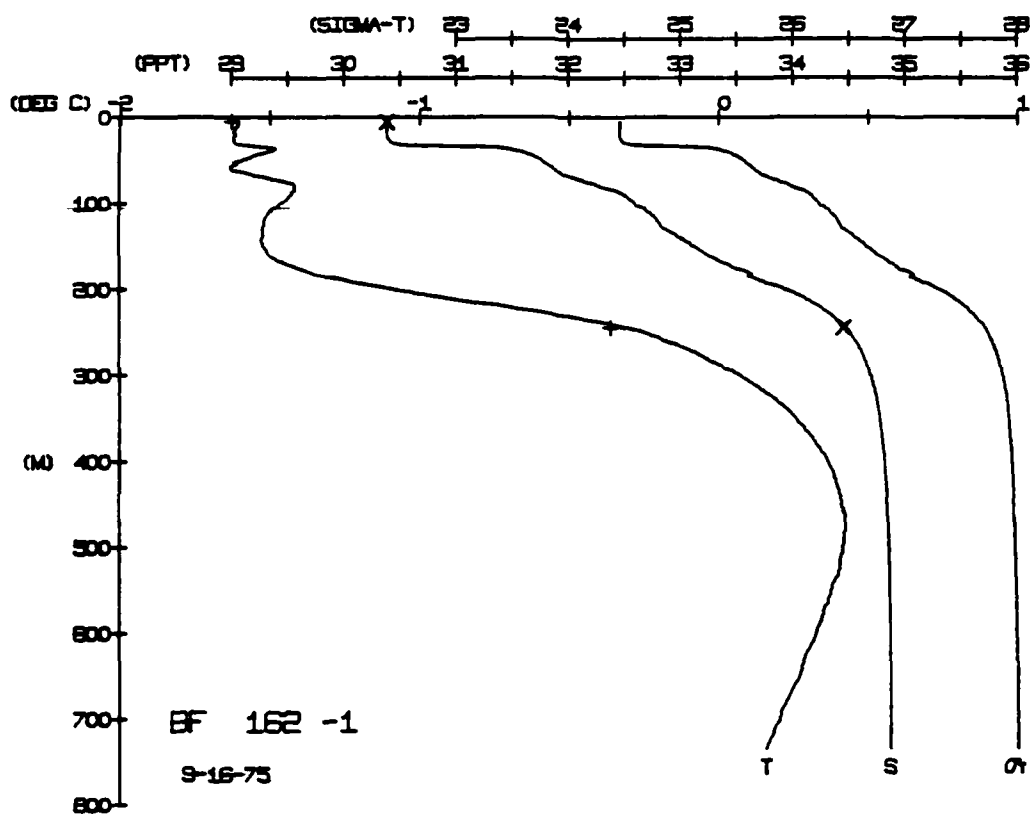




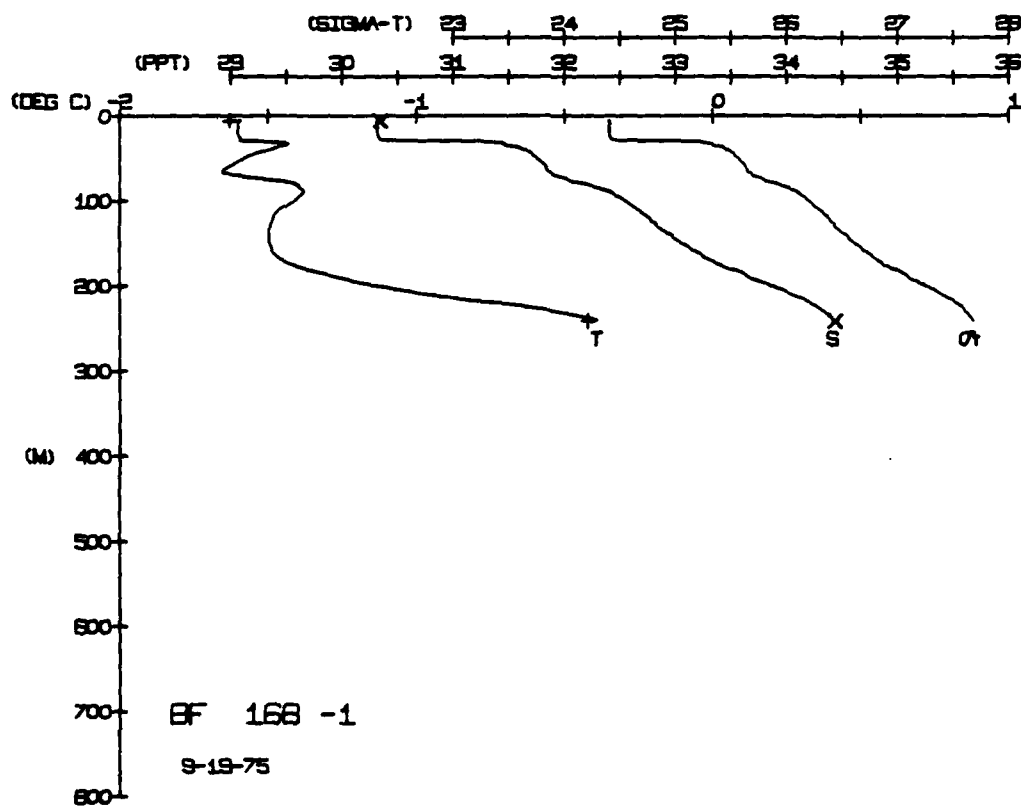
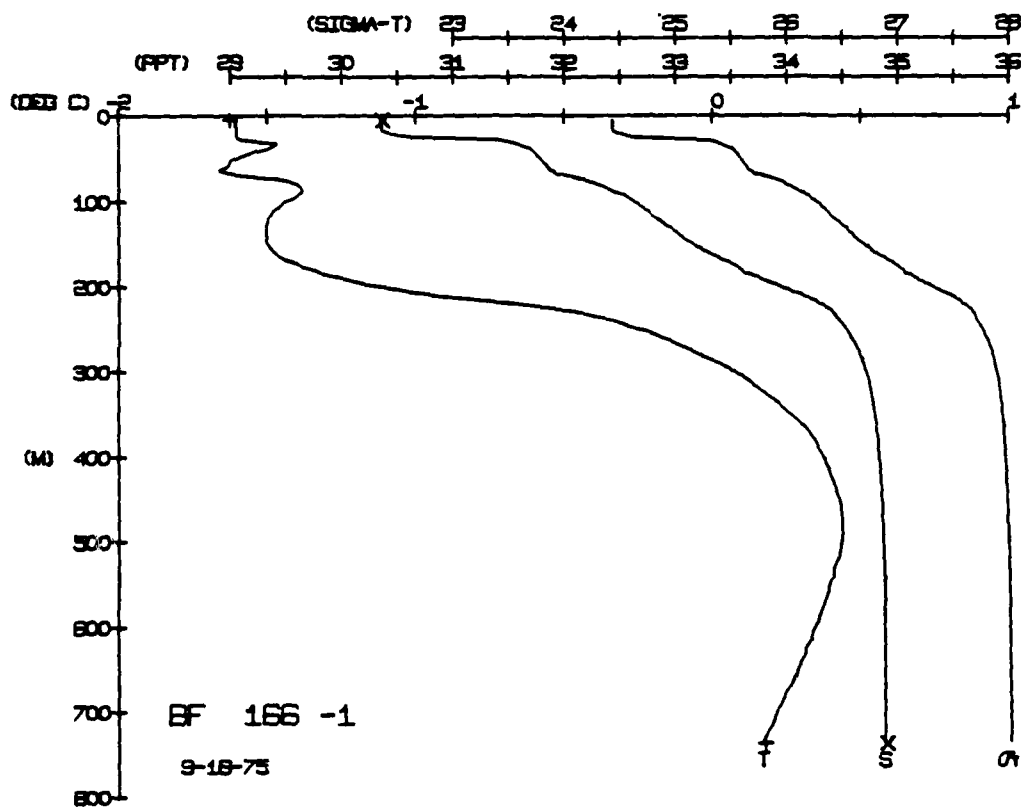




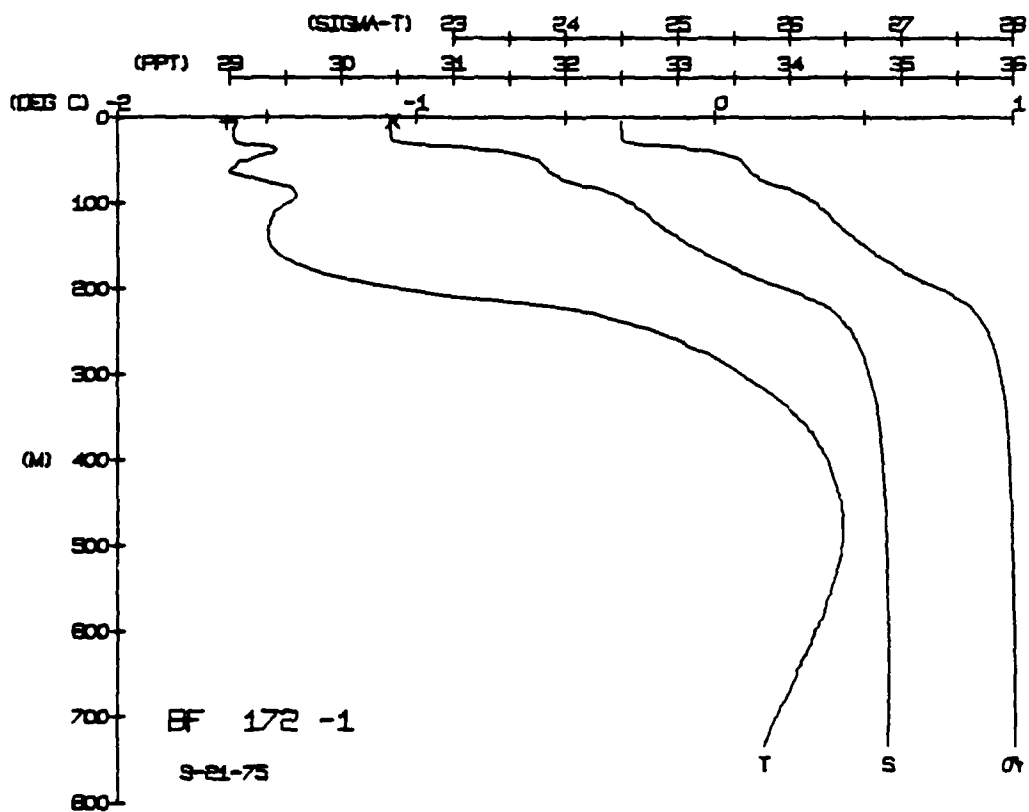
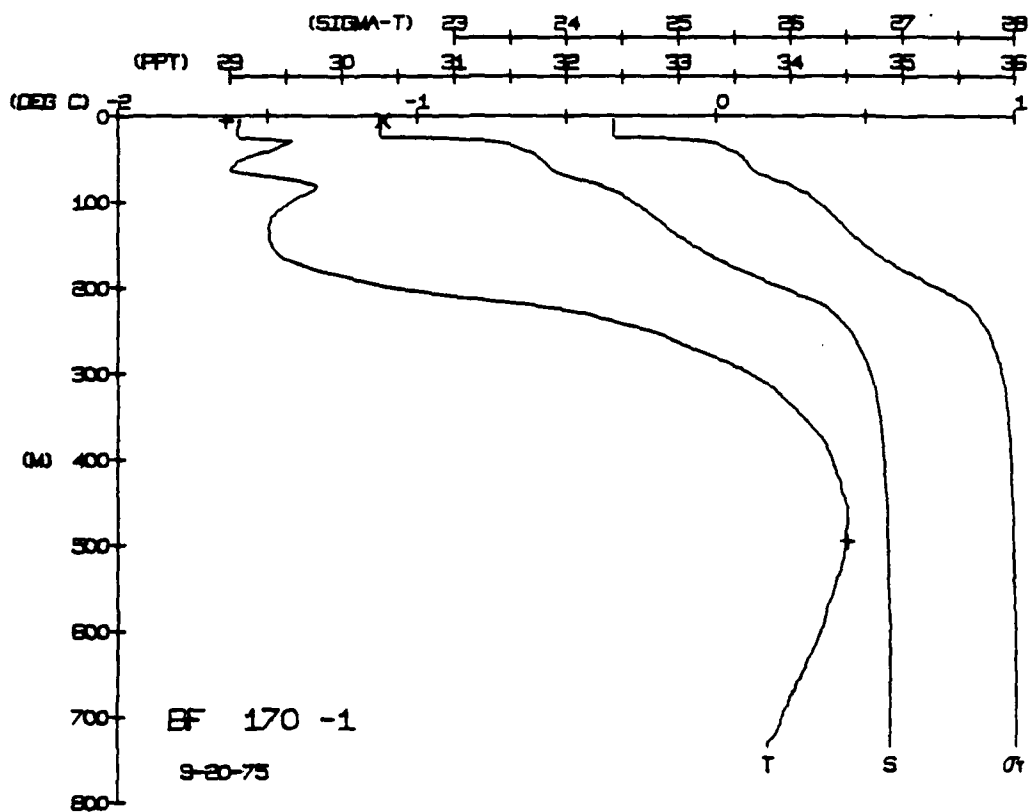














AD-A118 203

LAMONT-DOHERTY GEOLOGICAL OBSERVATORY PALISADES NY

F/G 8/10

ARCTIC ICE DYNAMICS JOINT EXPERIMENT 1975-1976. PHYSICAL OCEANO--ETC(U)

FEB 80 E BAUER, K HUNKINS, T O MANLEY

N00014-76-C-0004

UNCLASSIFIED

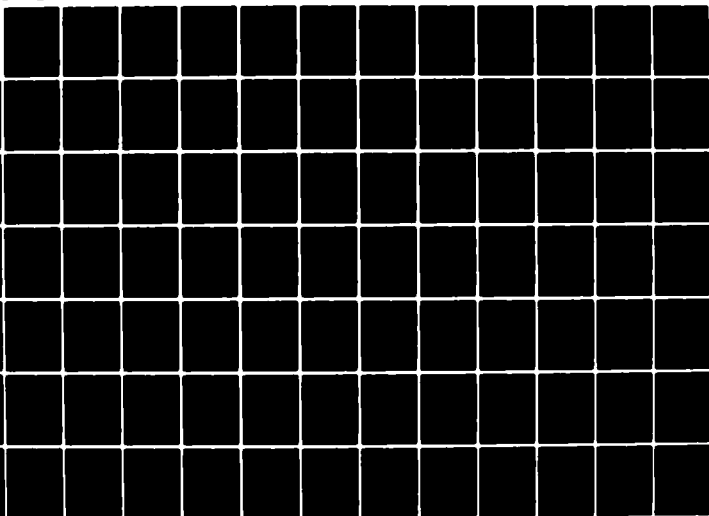
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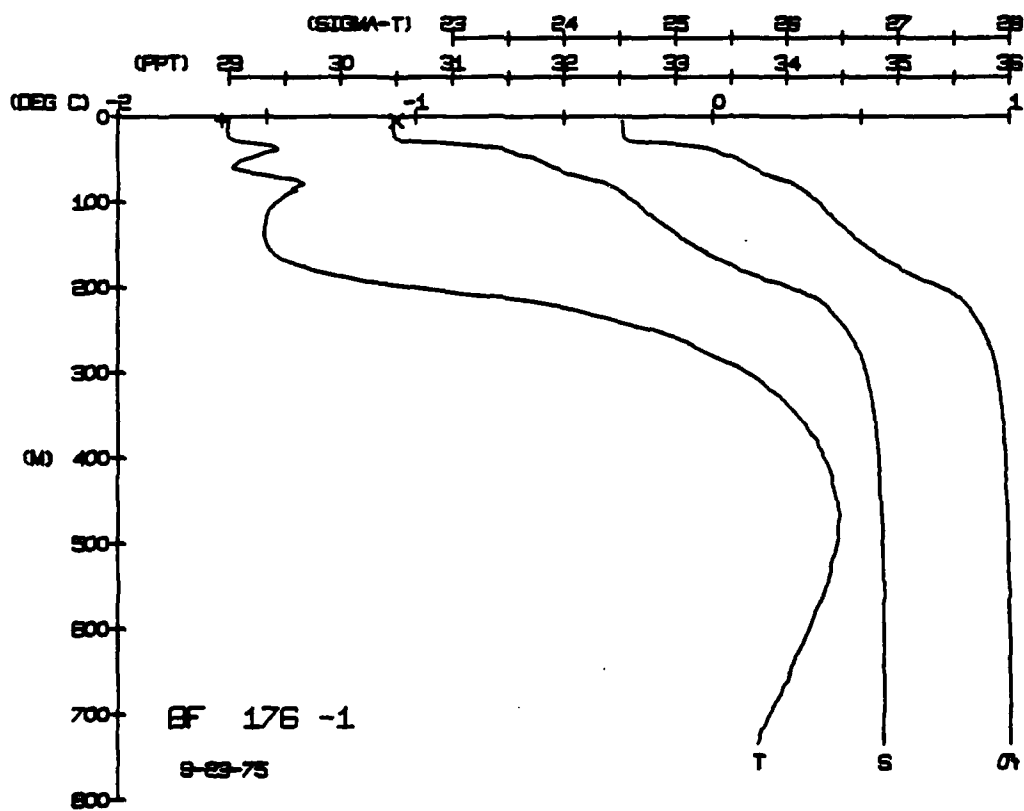
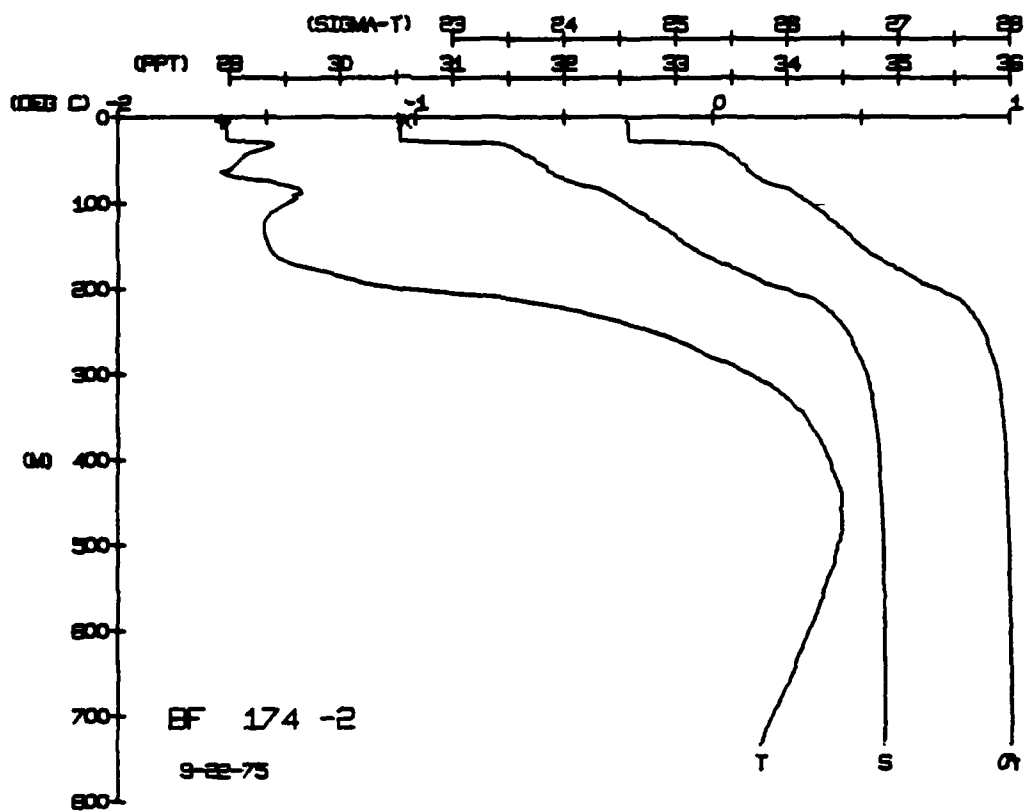
4 OF 5

AD 4

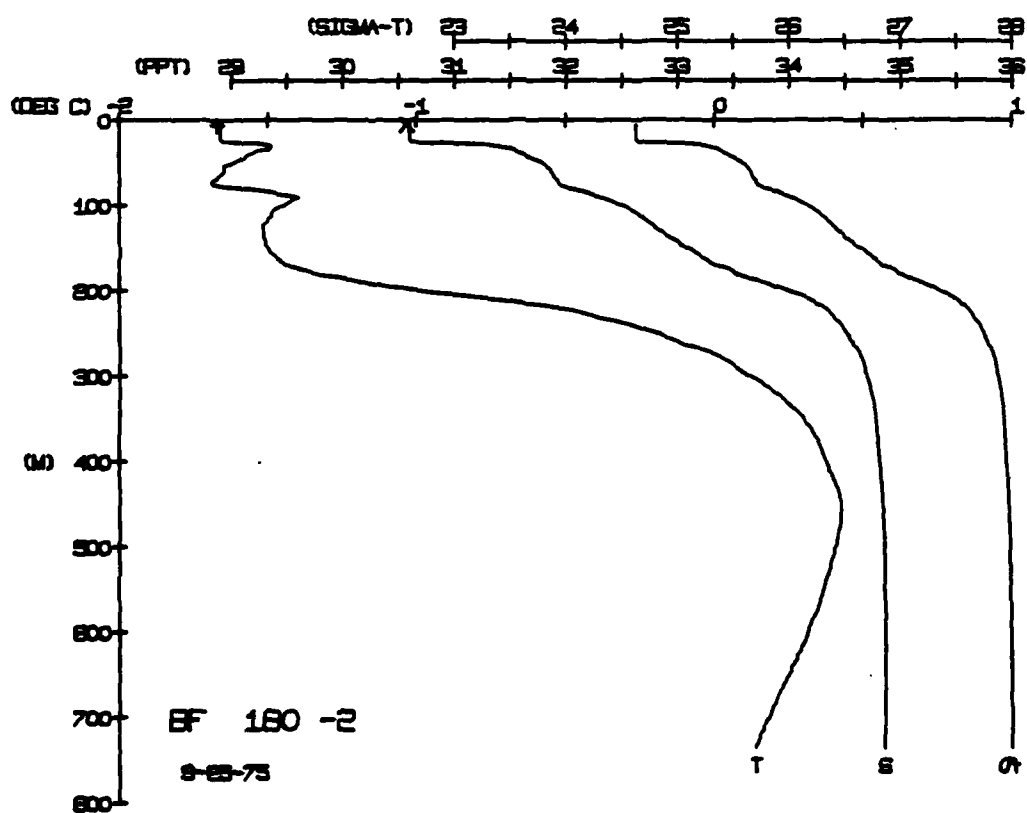
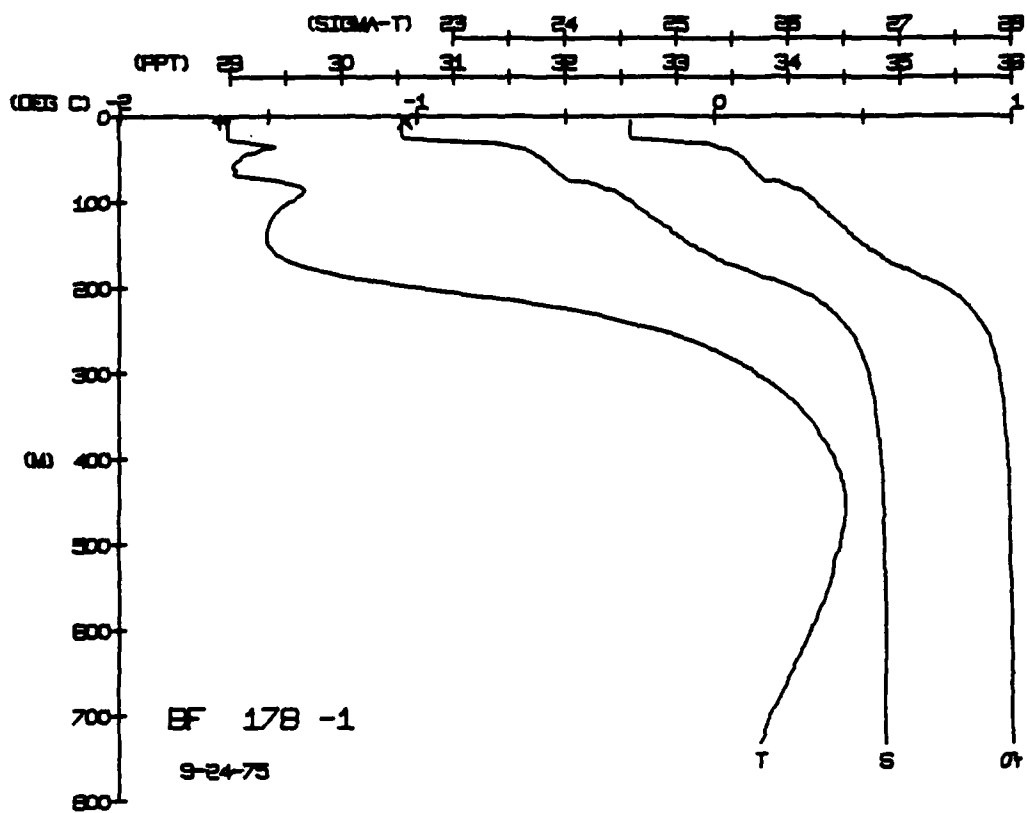
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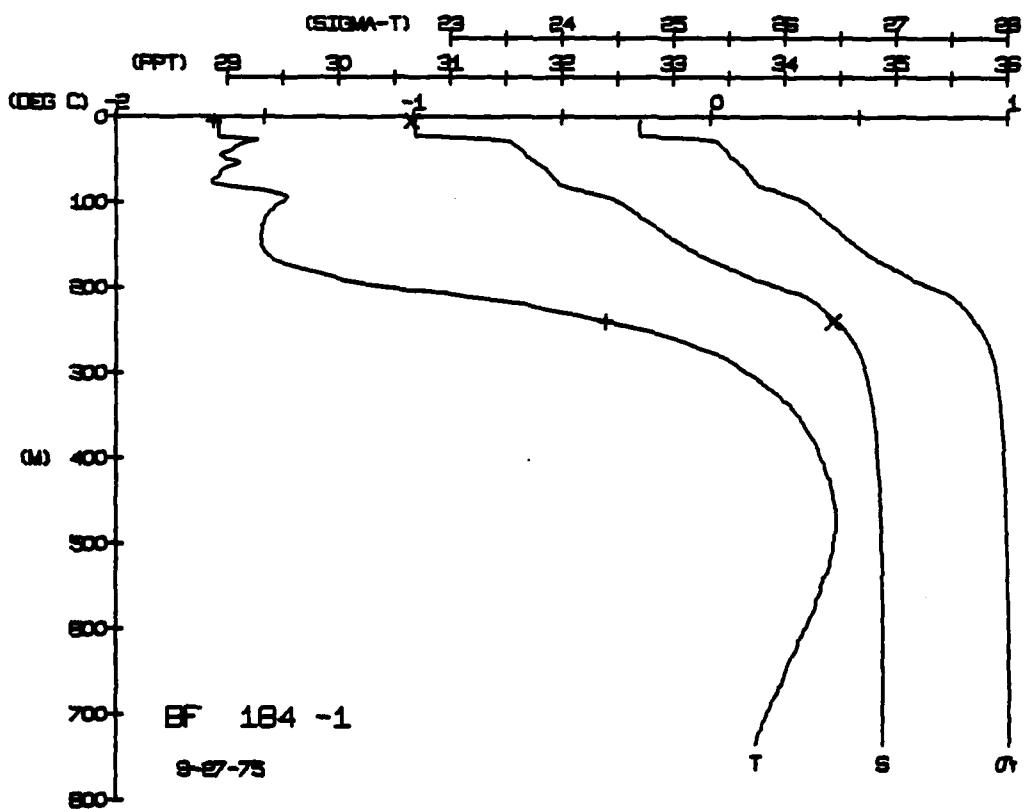
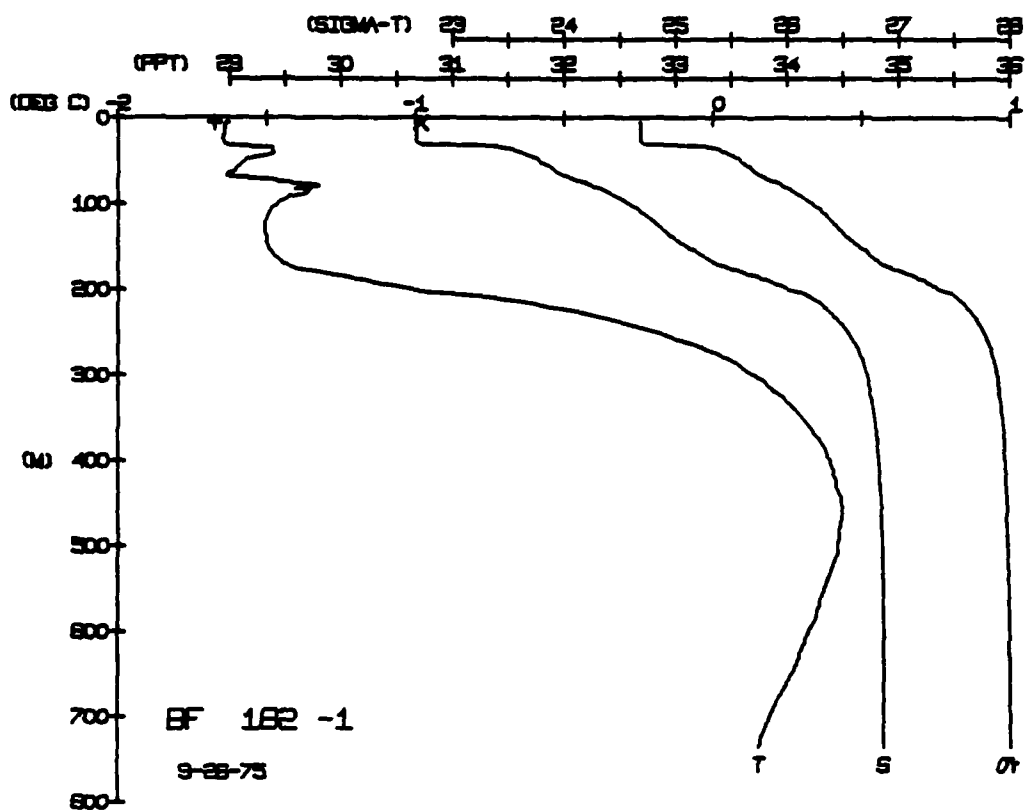




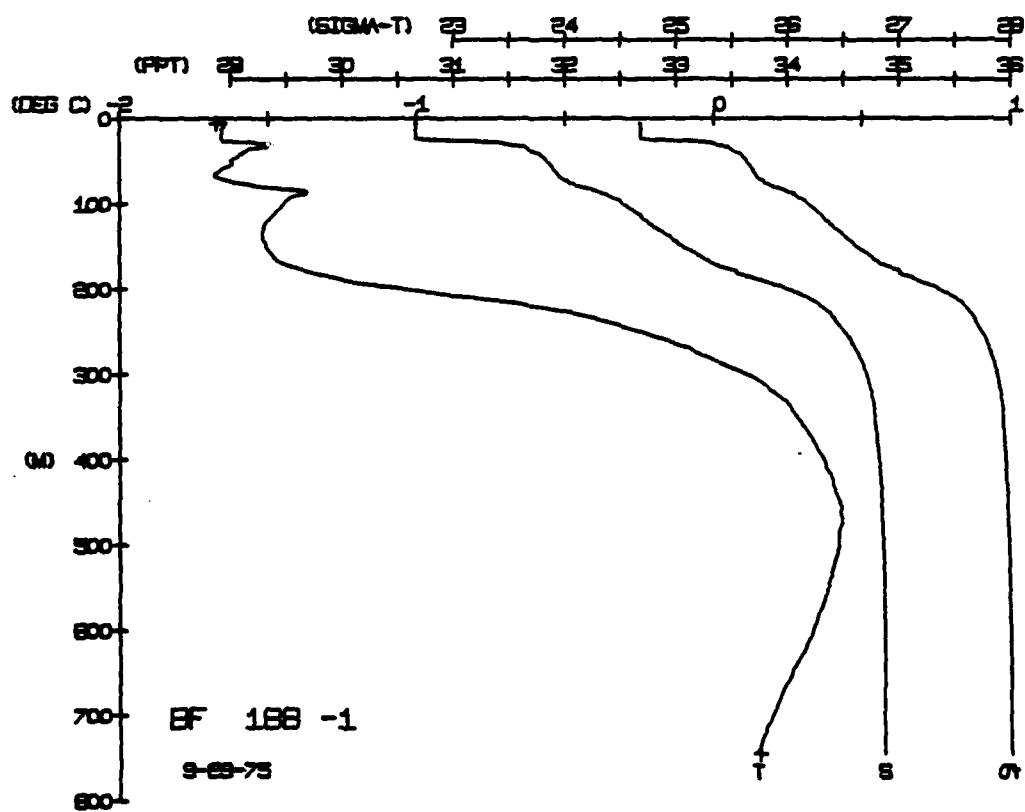
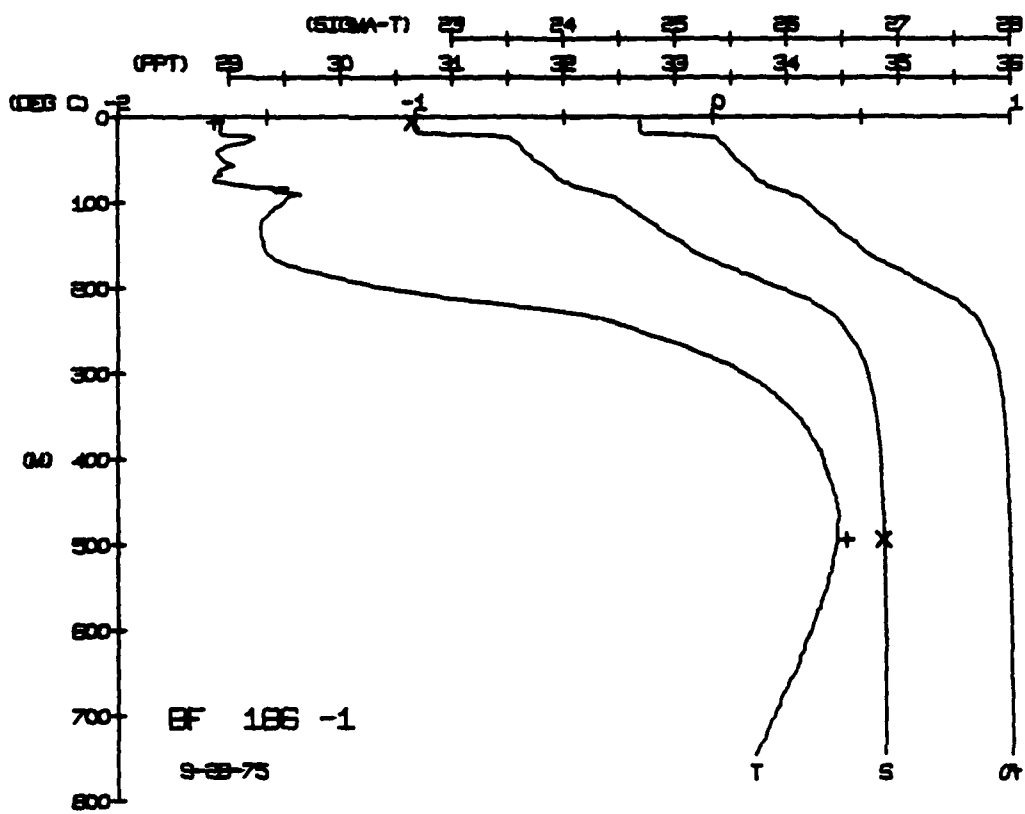






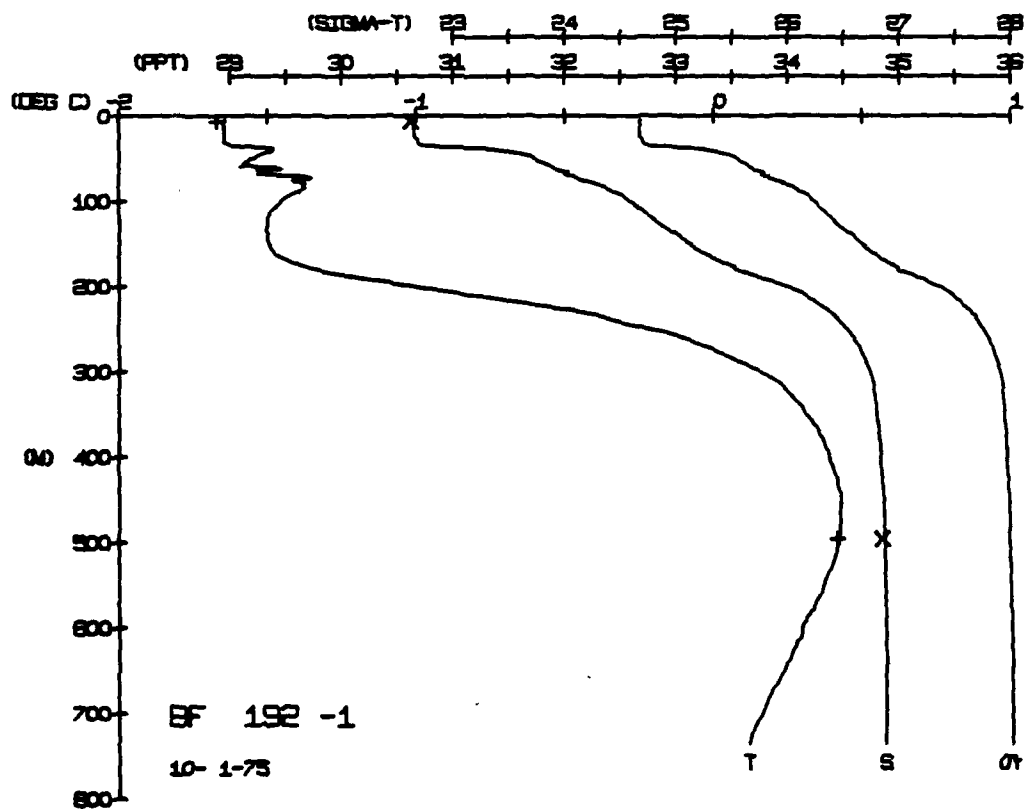
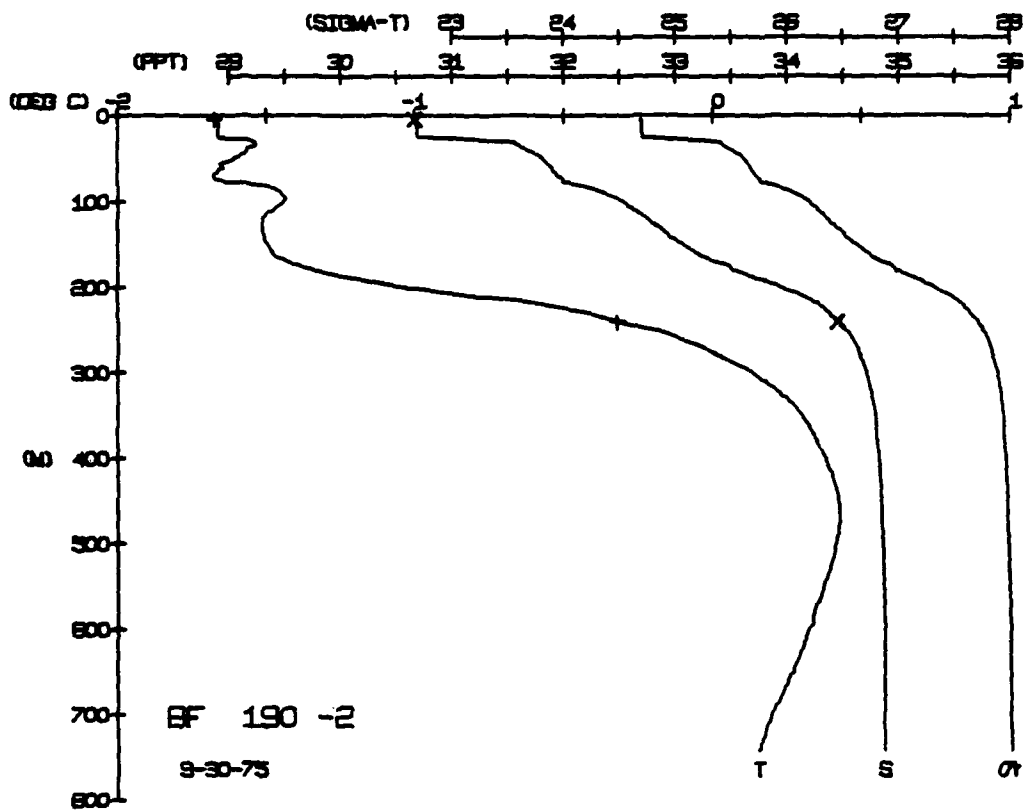




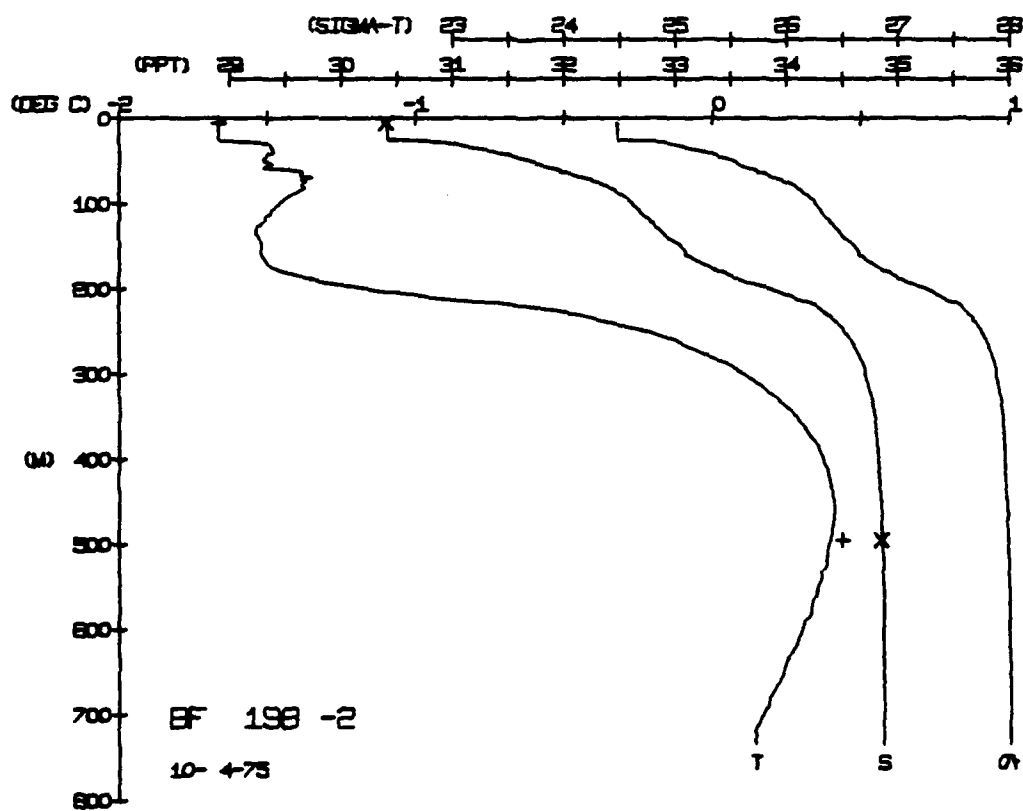
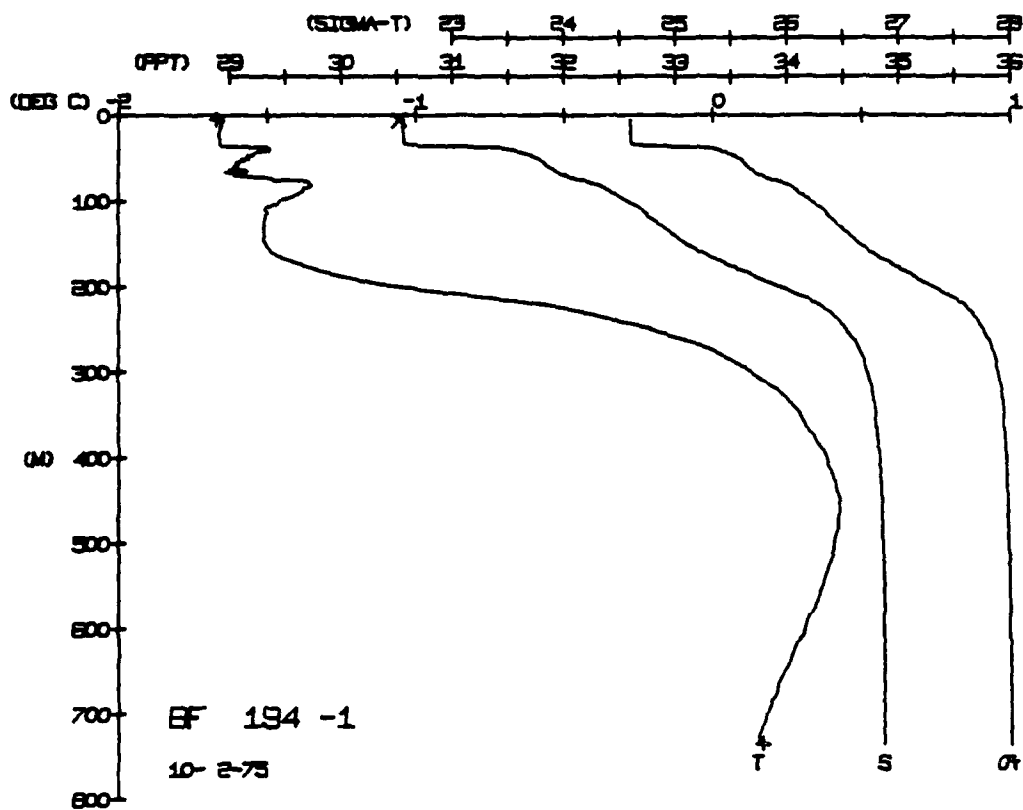




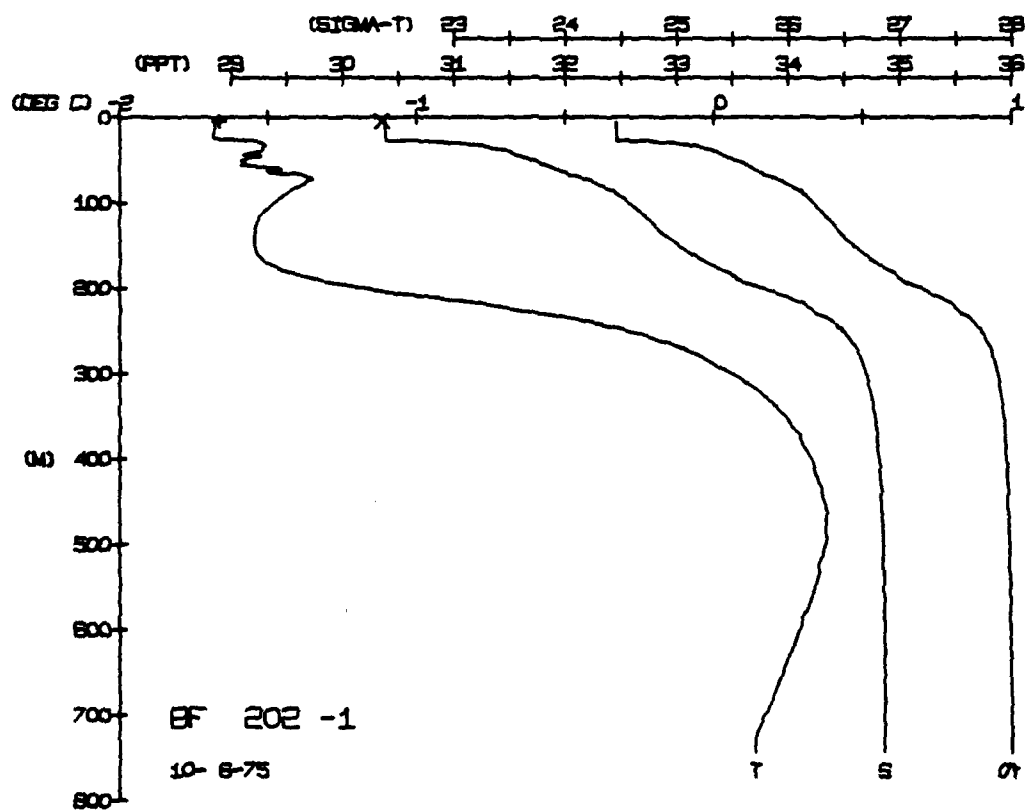
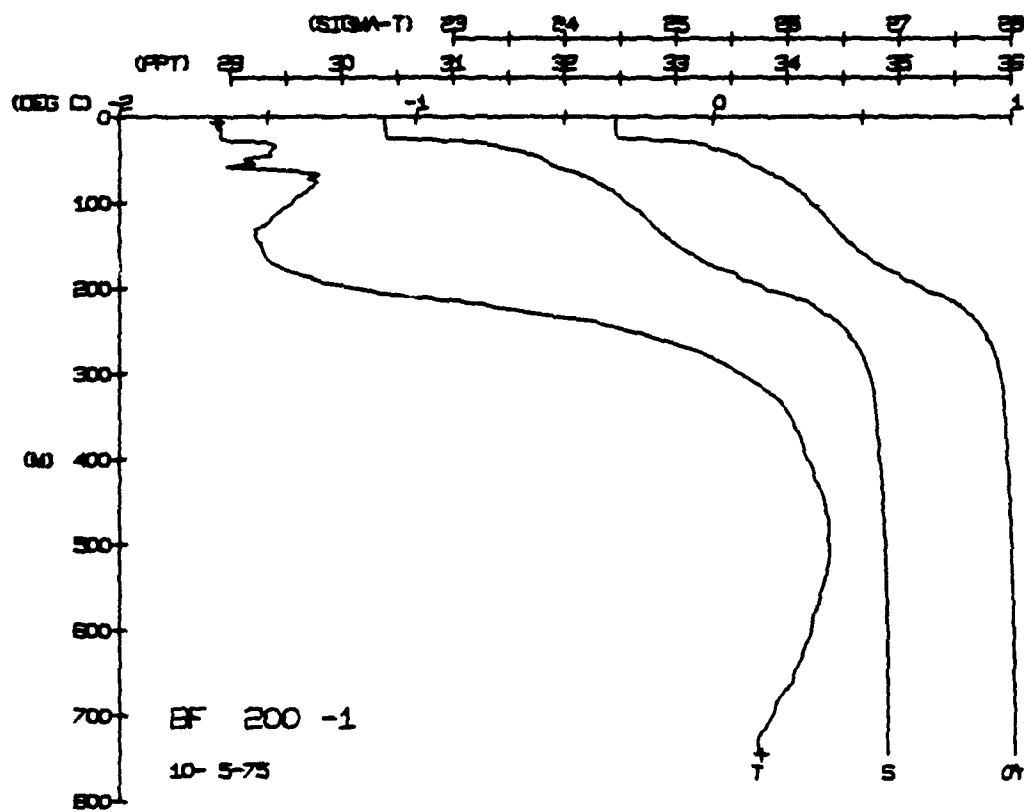




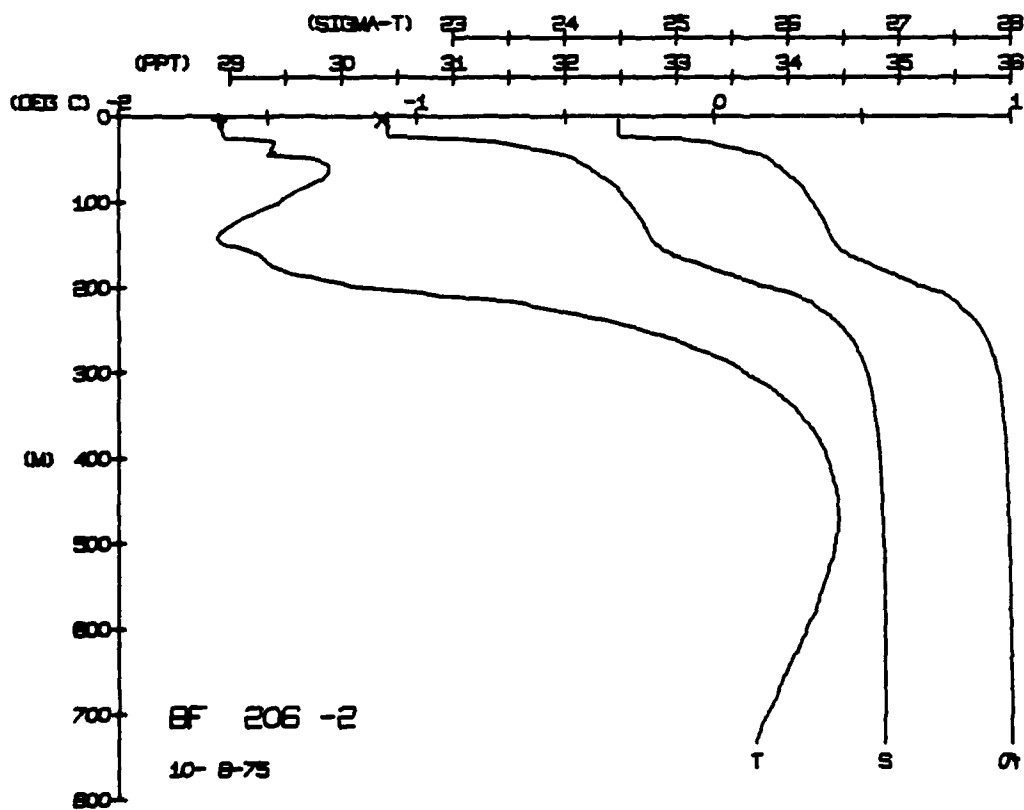
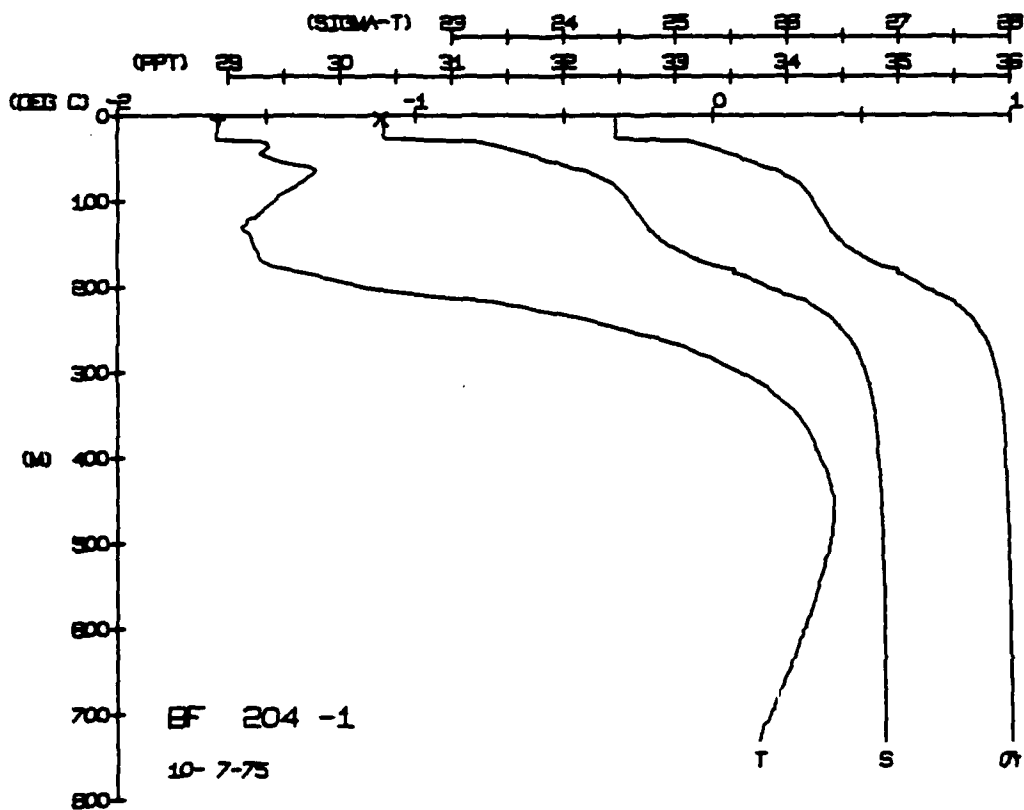






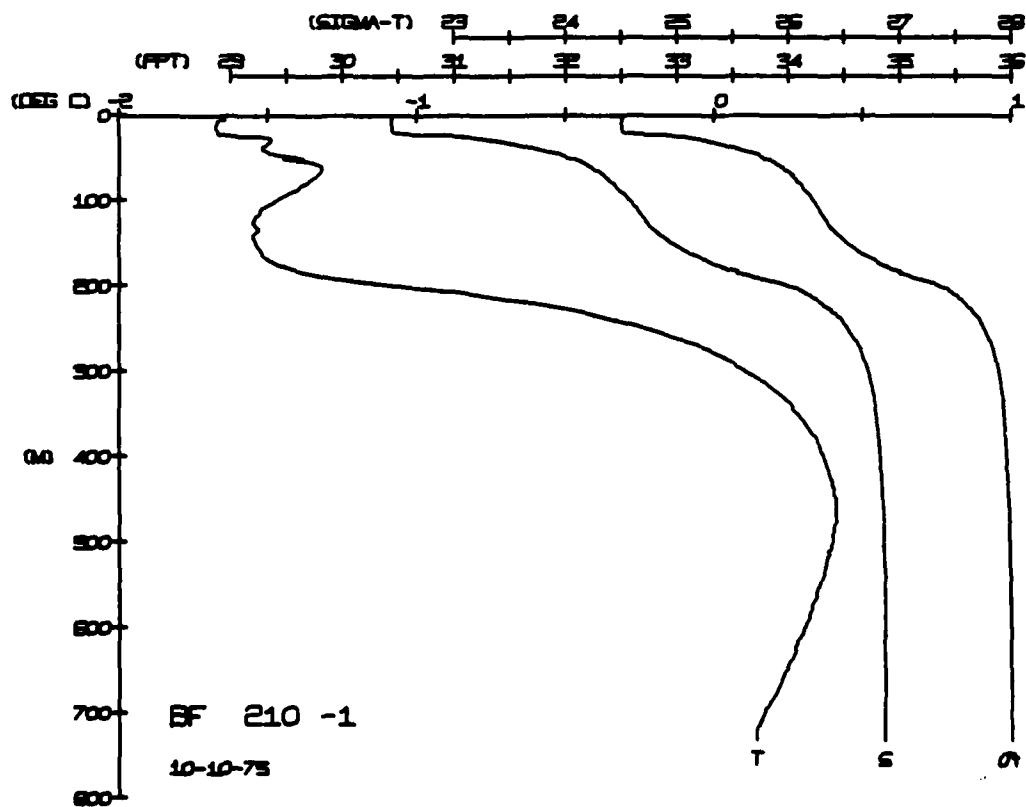
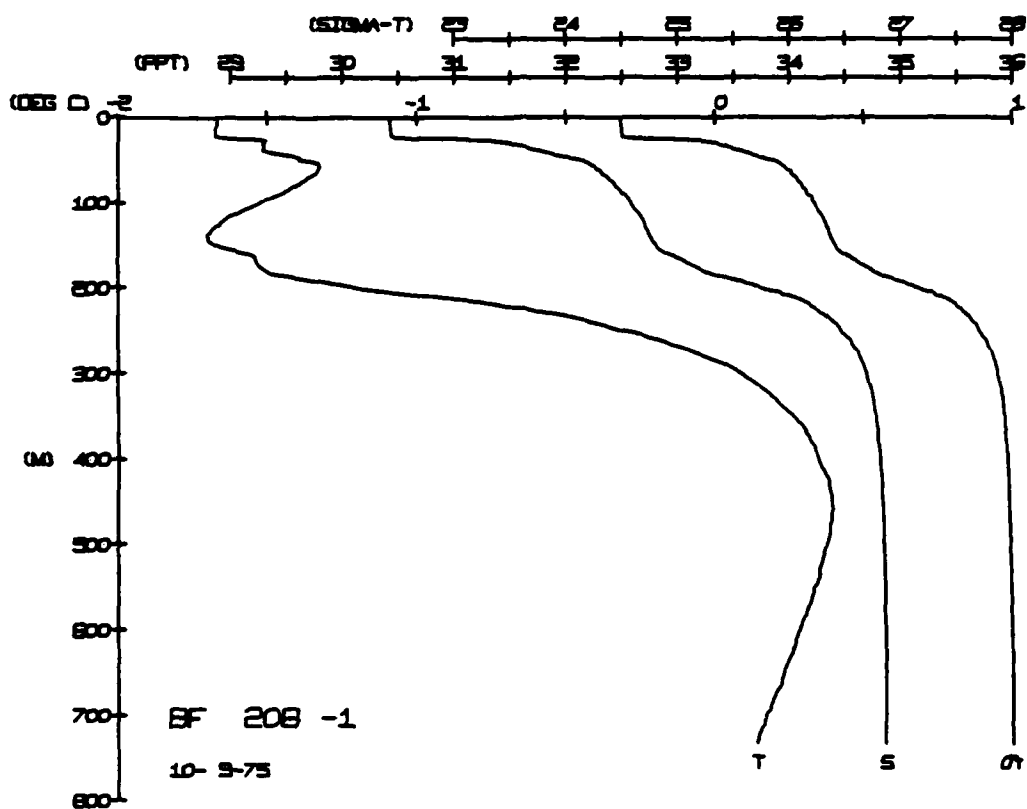




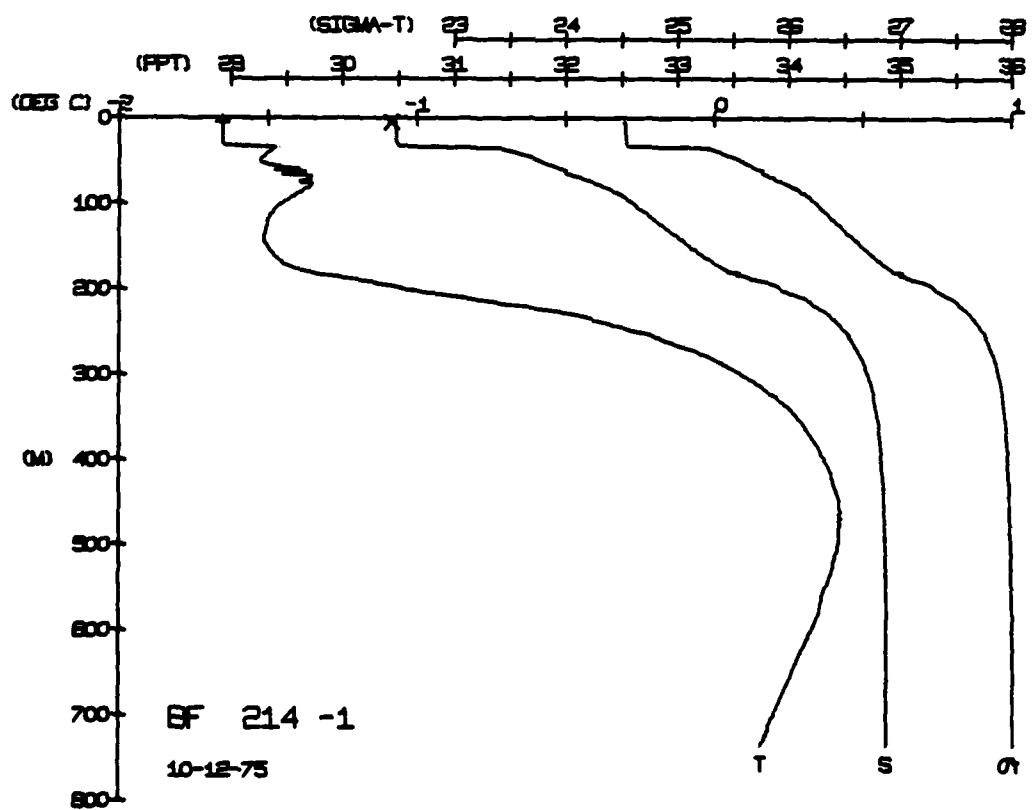
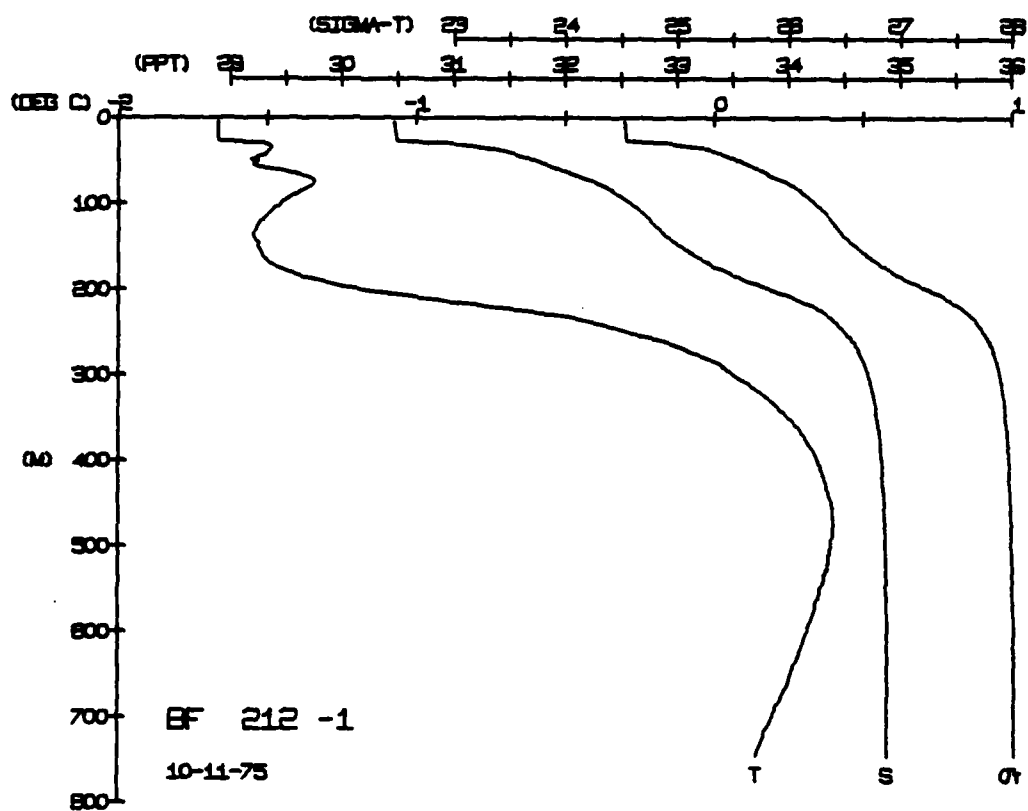




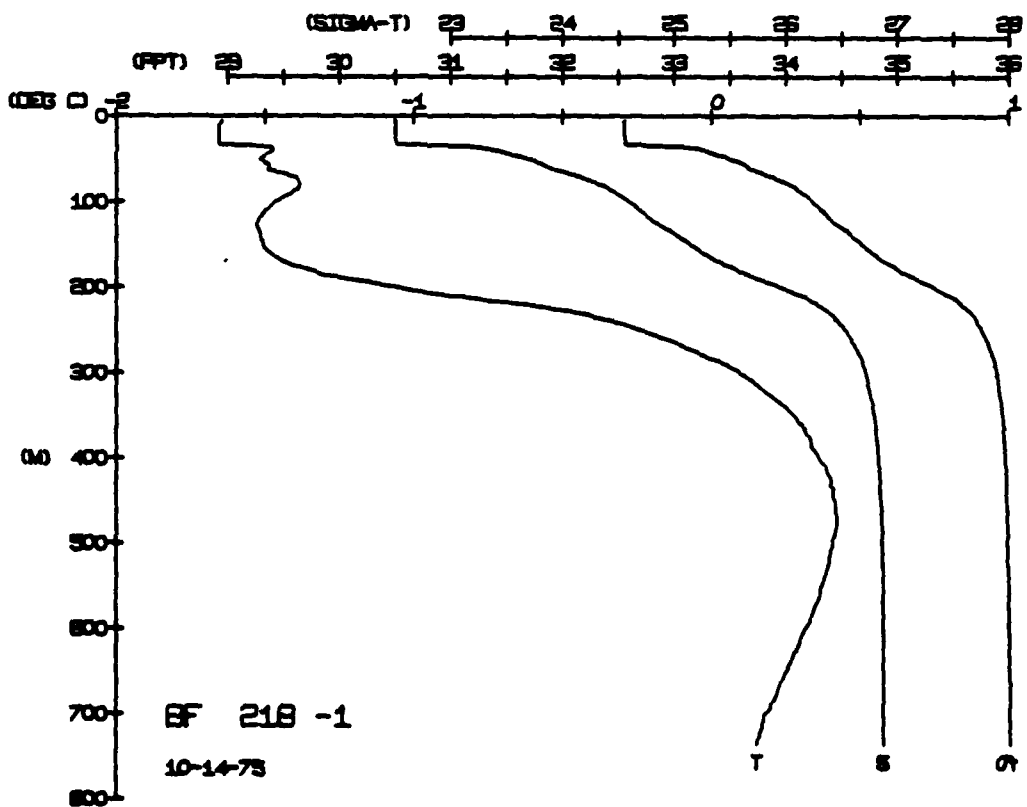
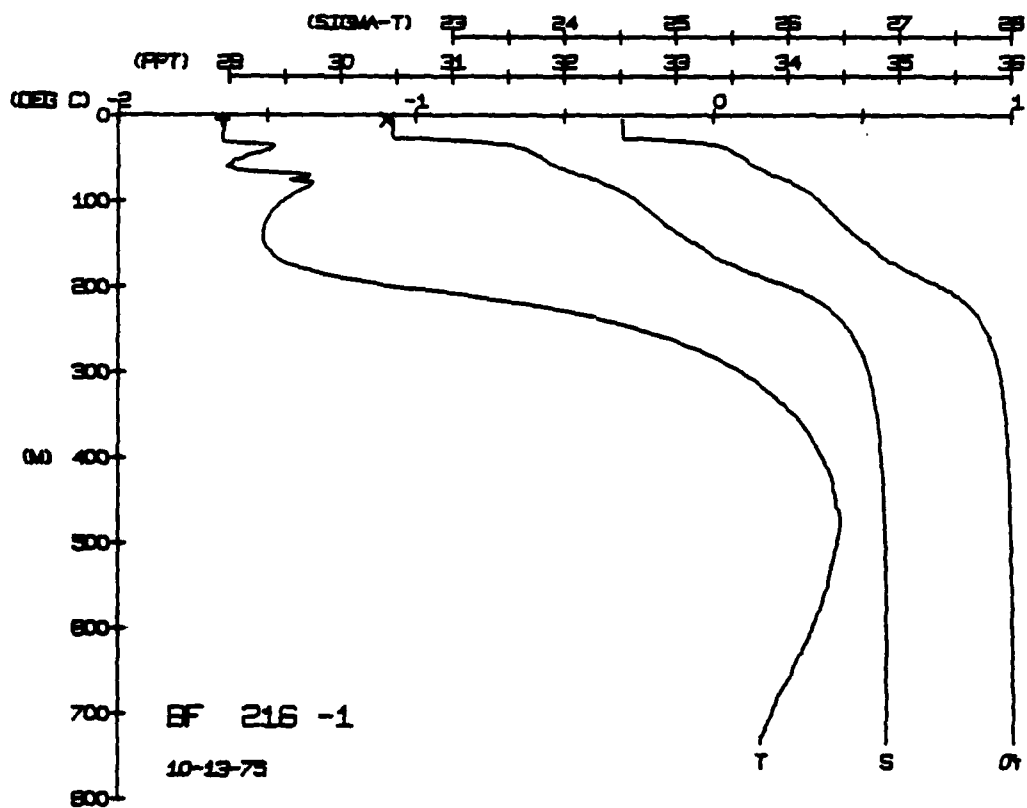




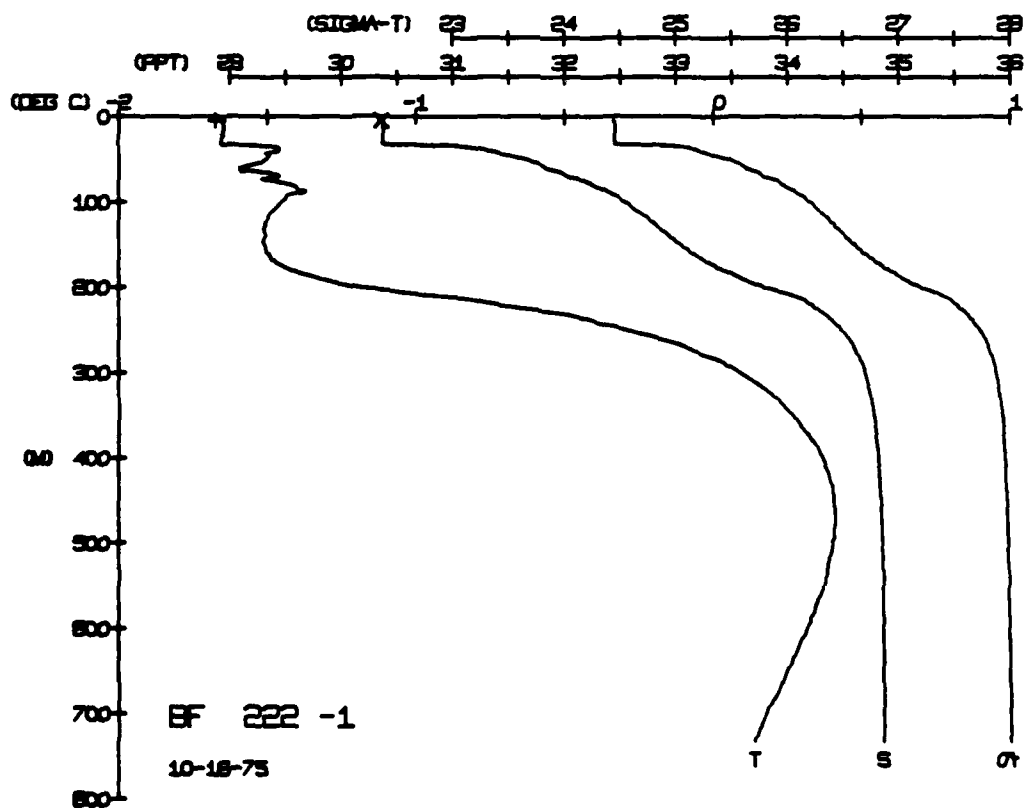
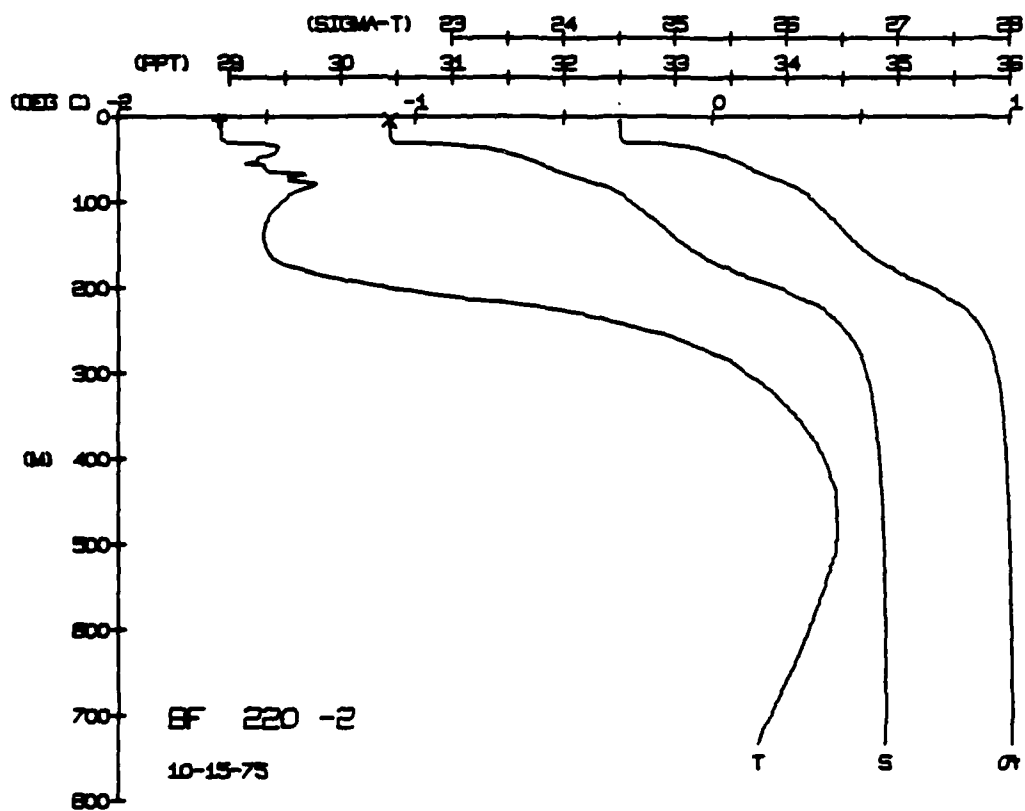






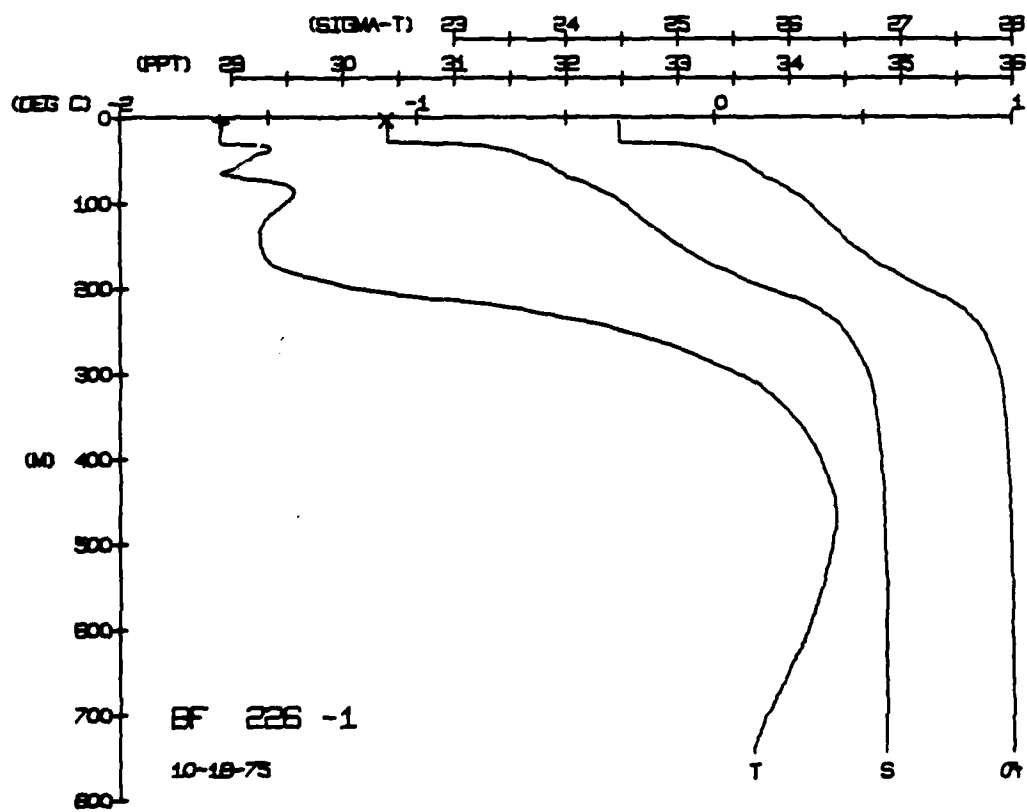
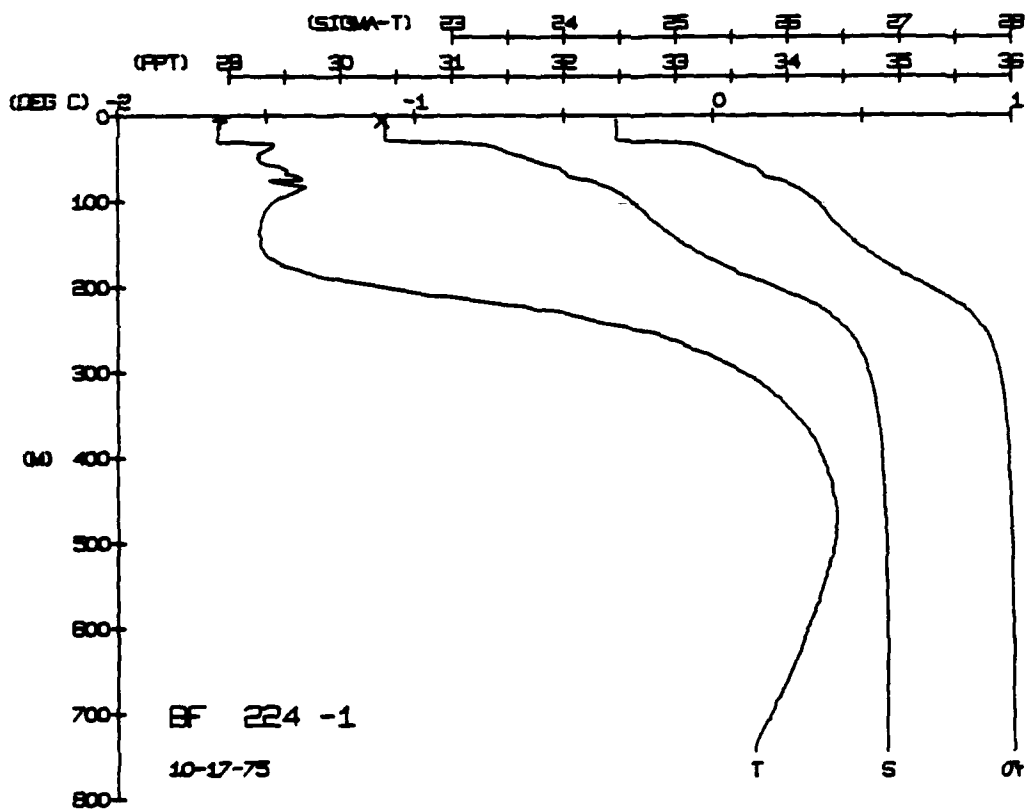




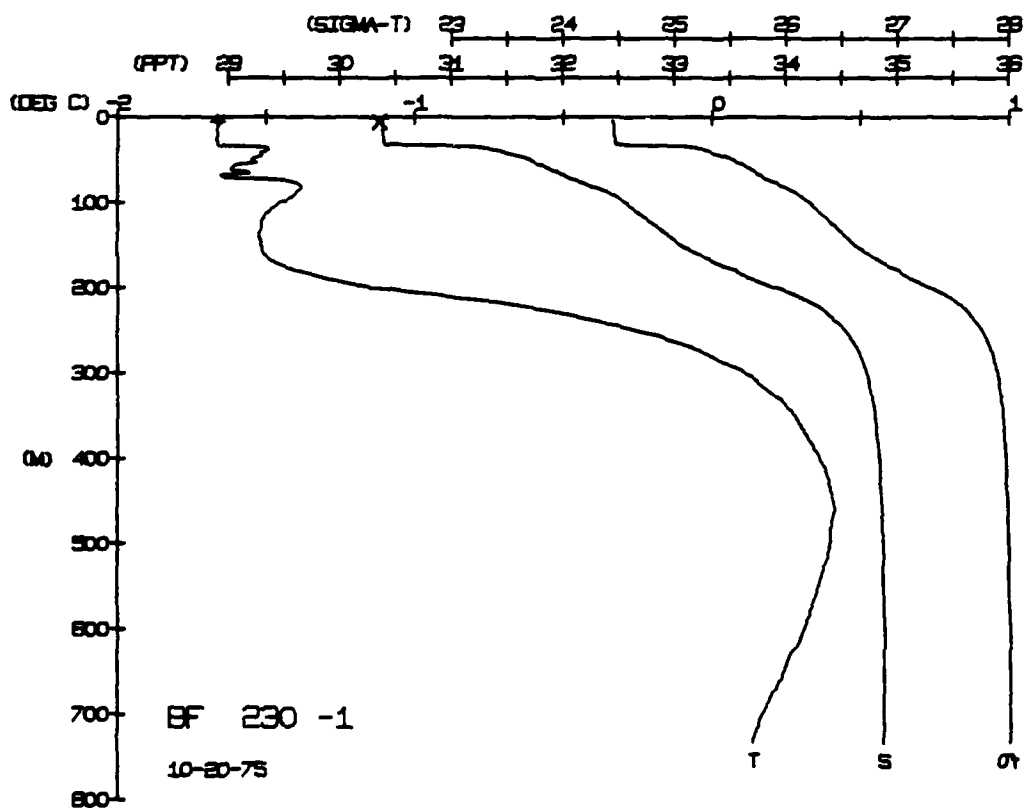
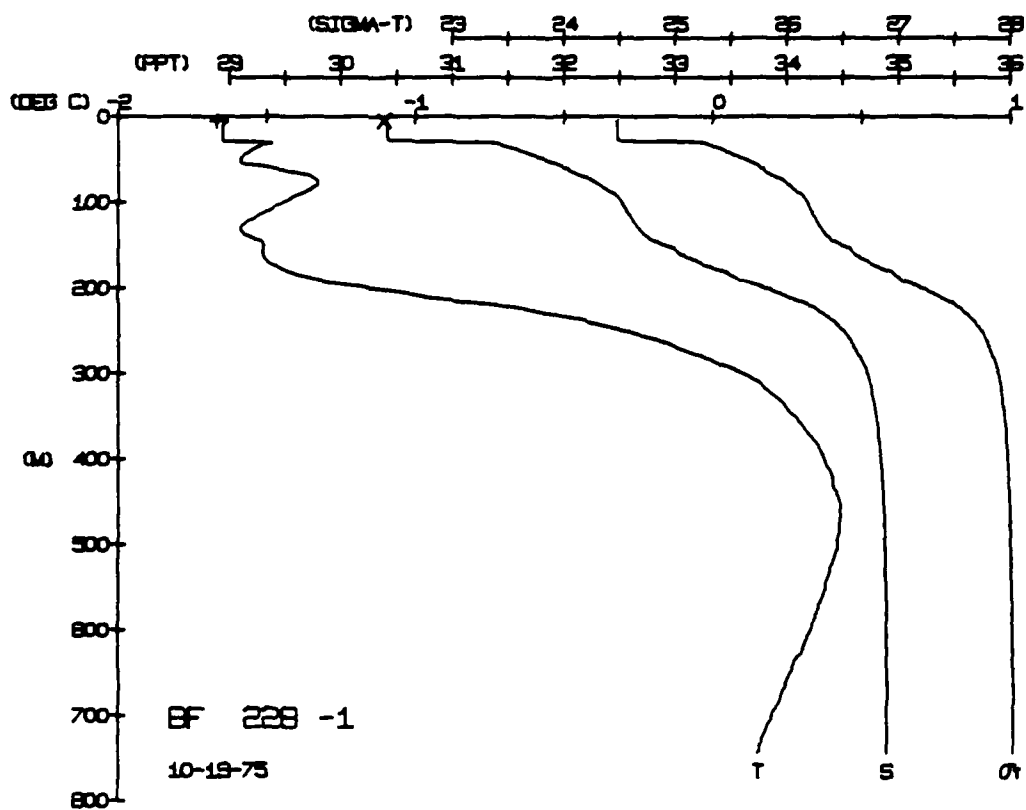






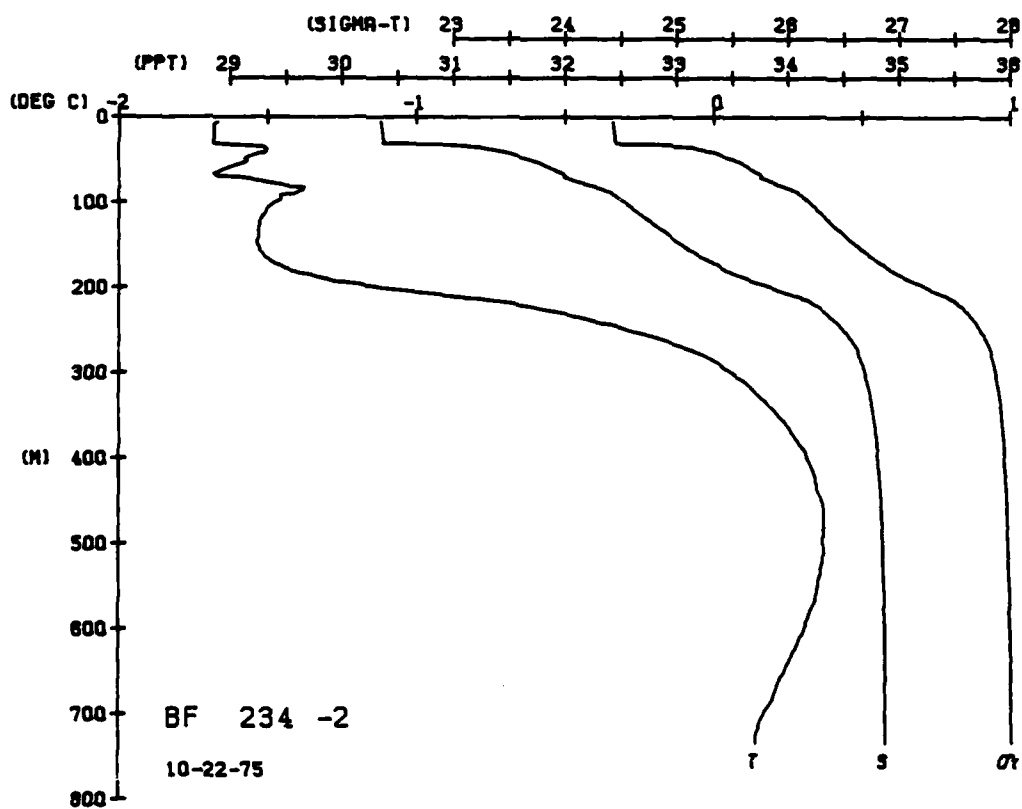
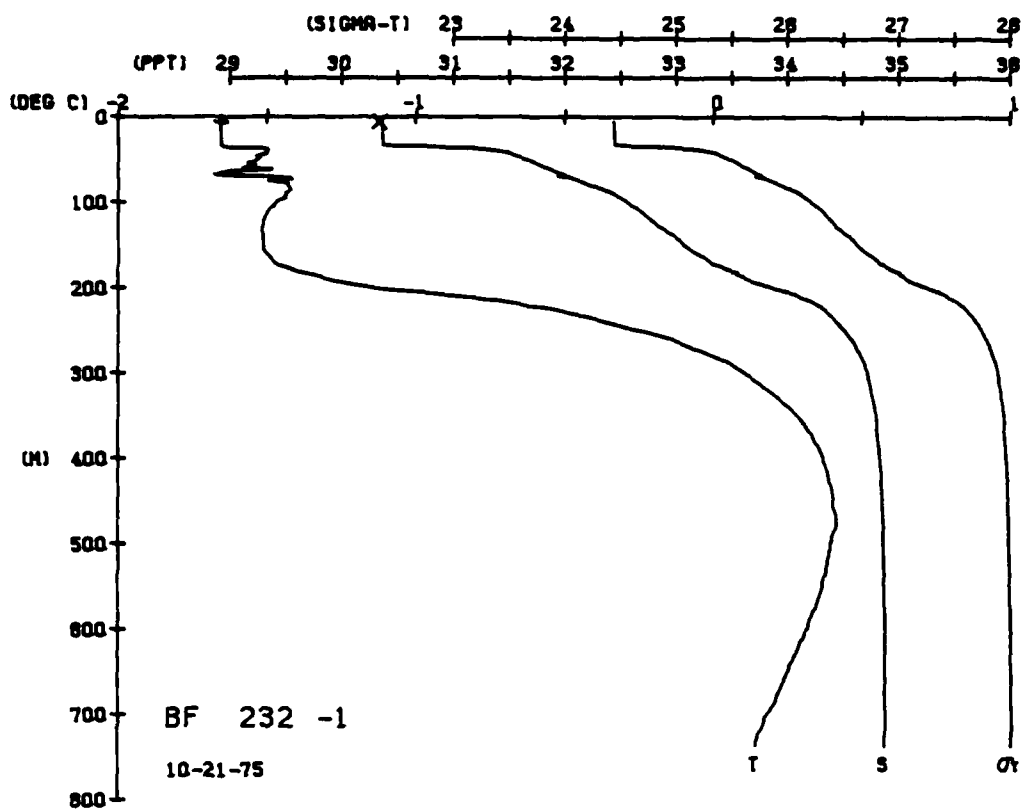




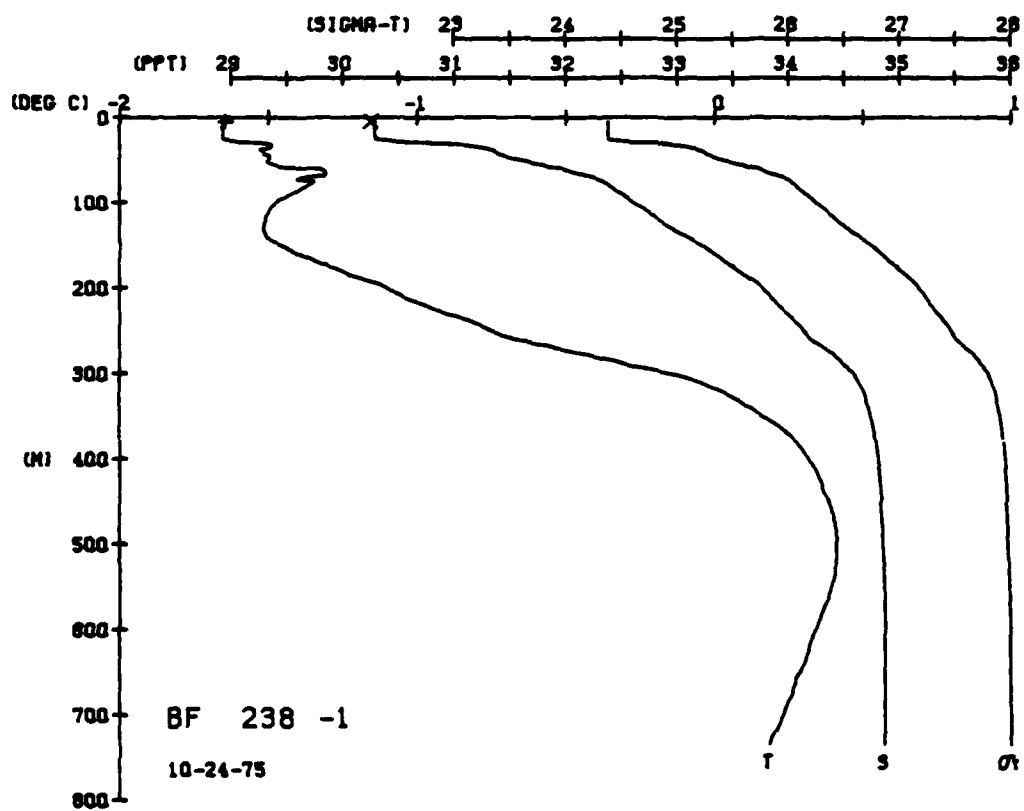
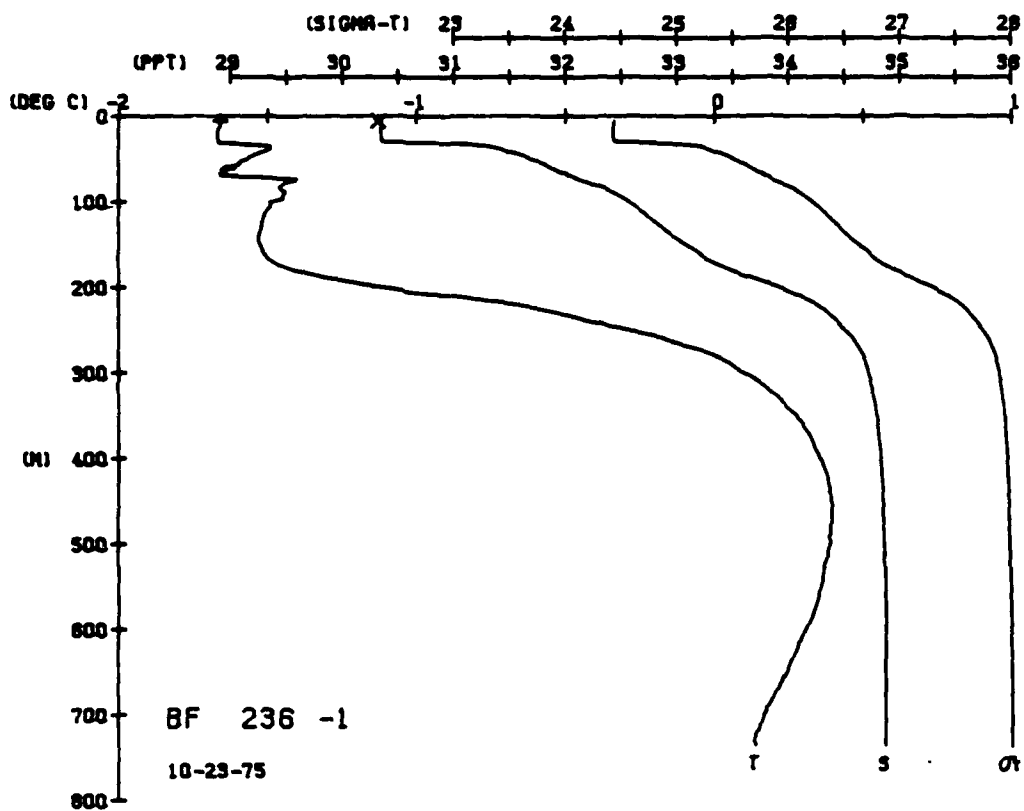






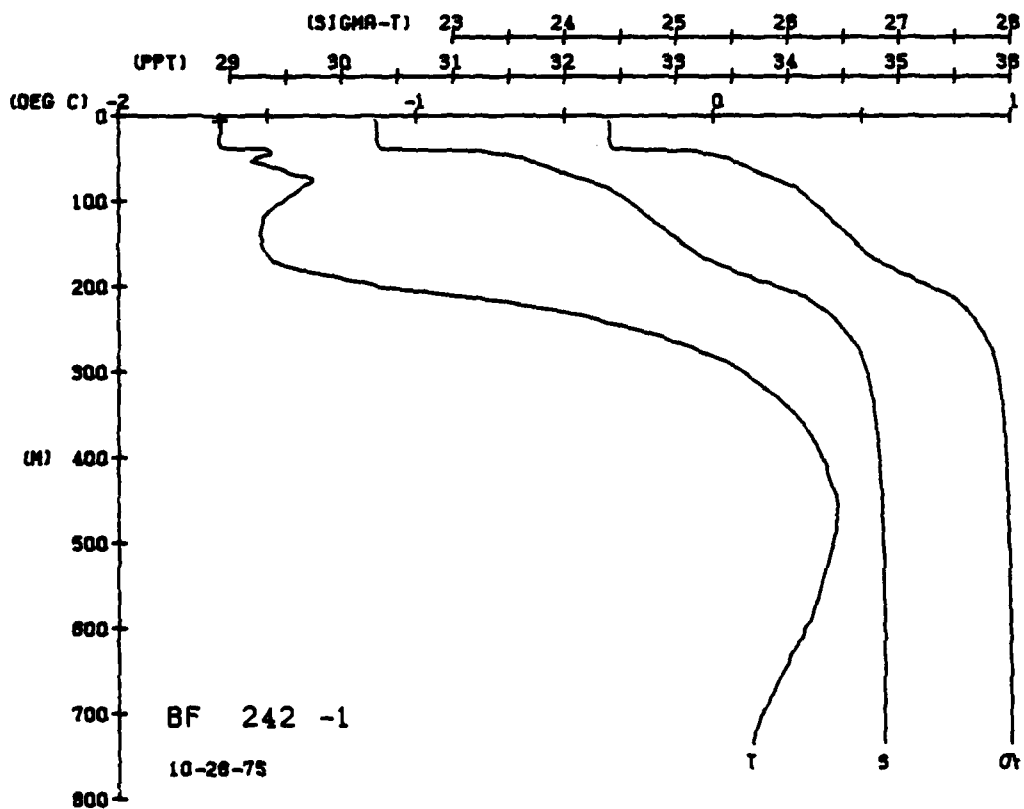
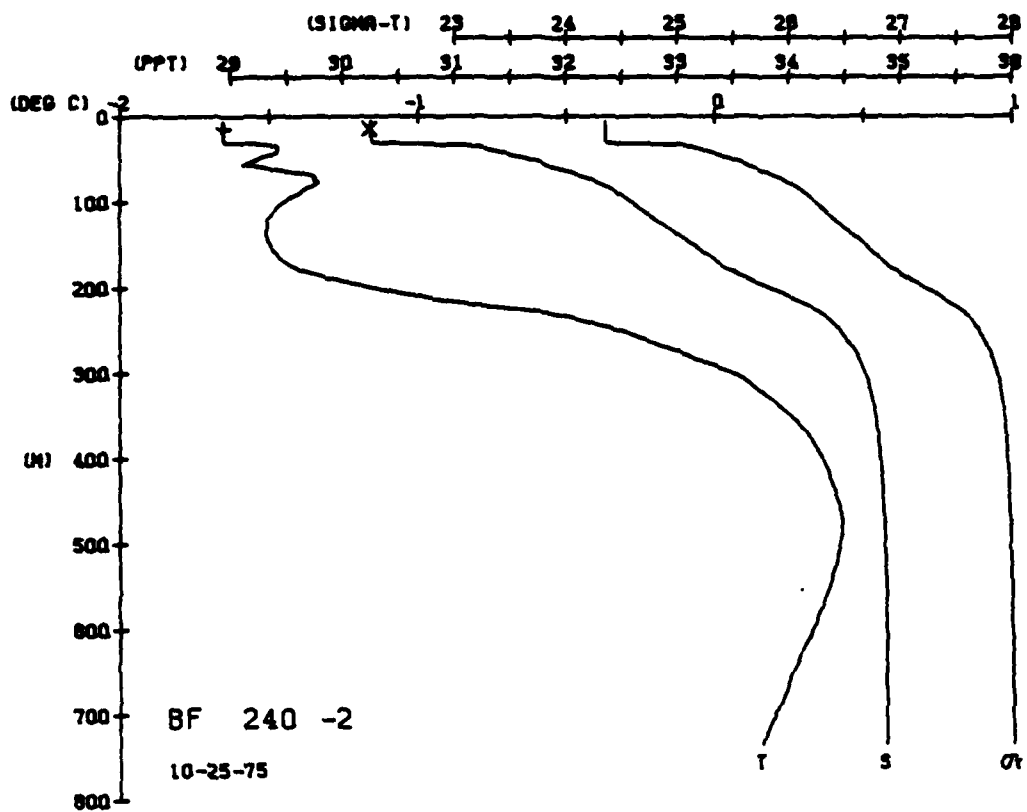




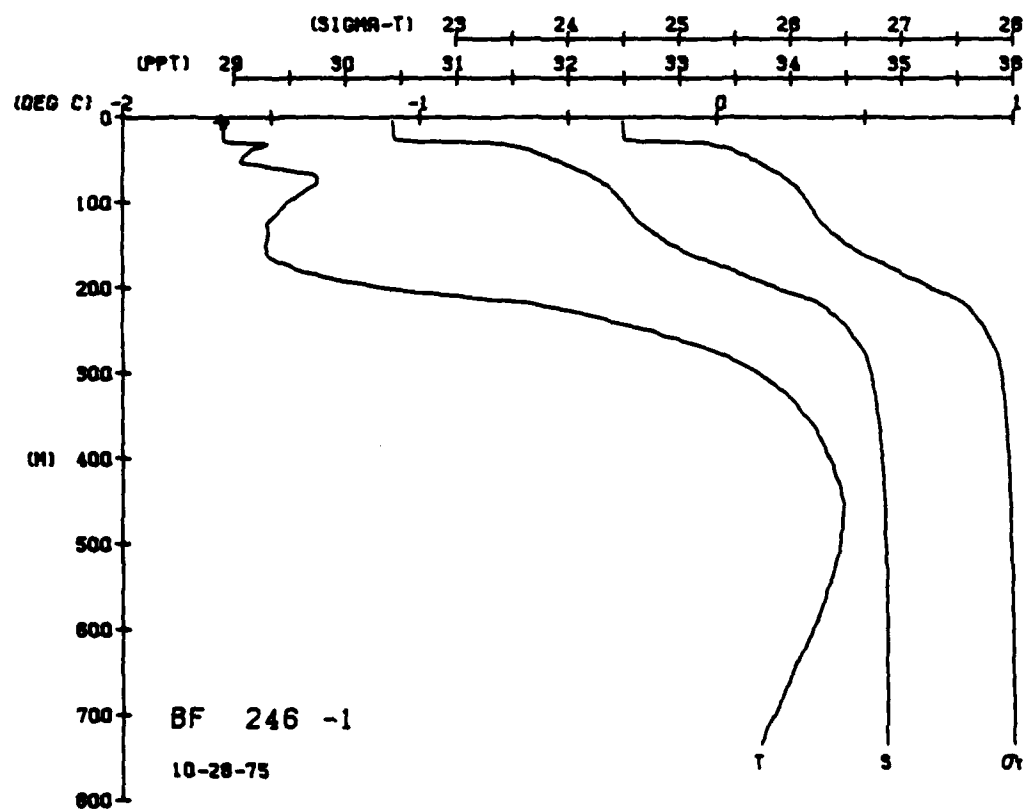
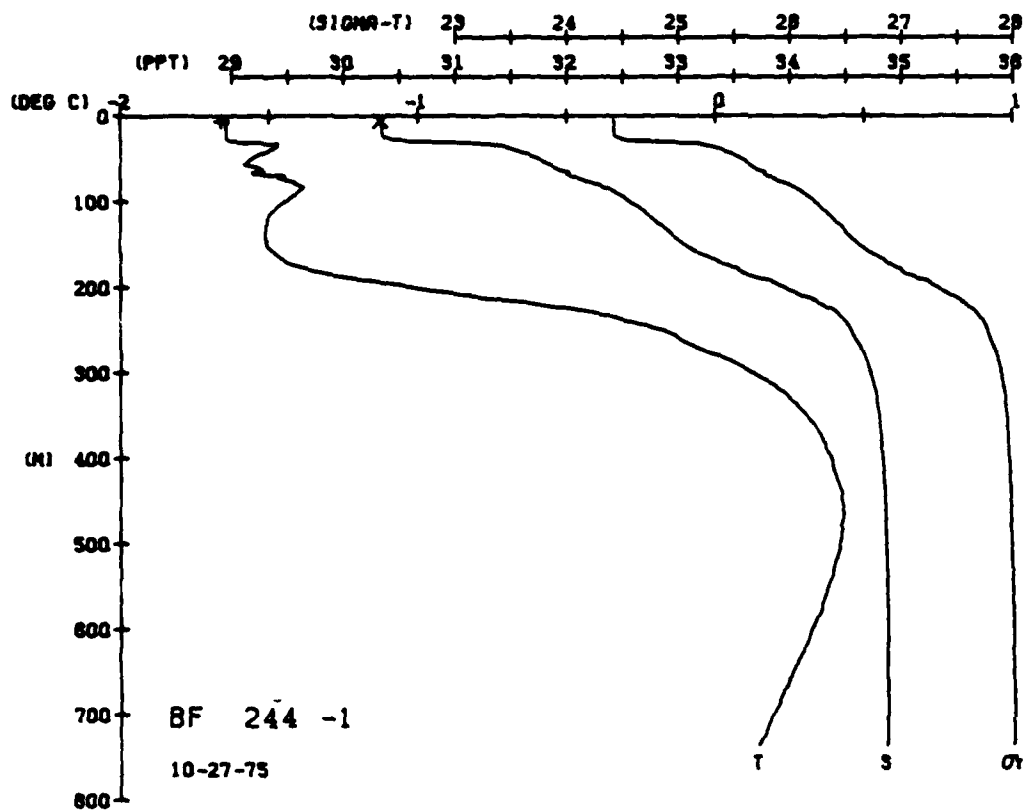




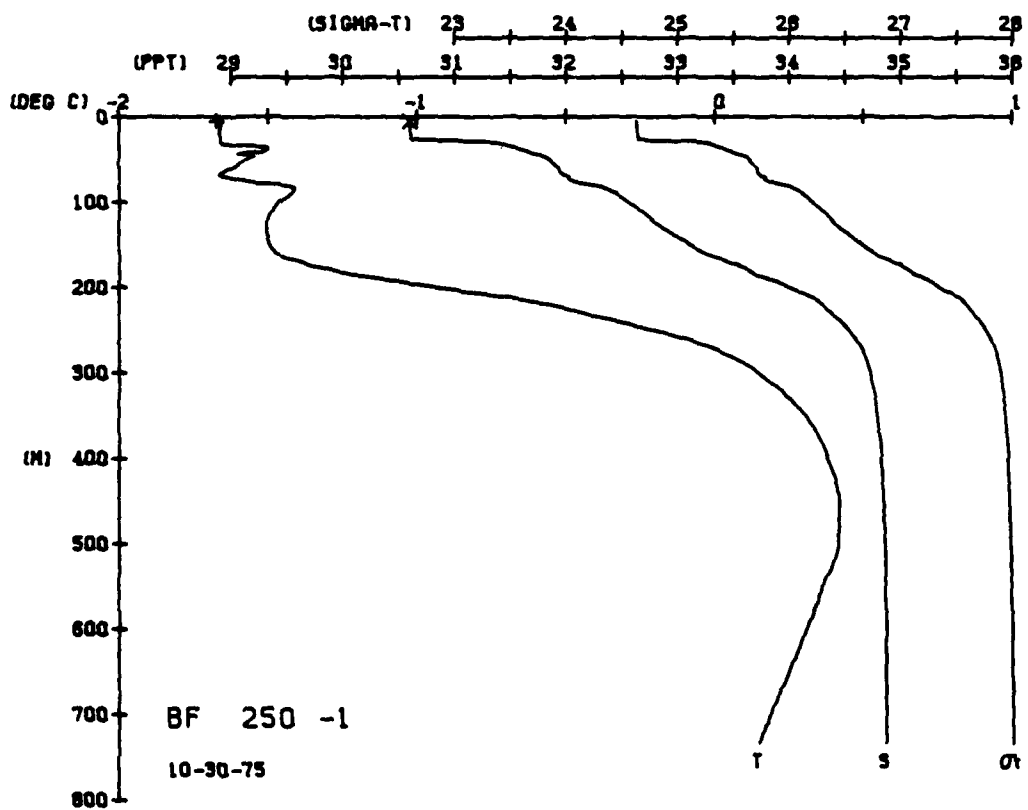
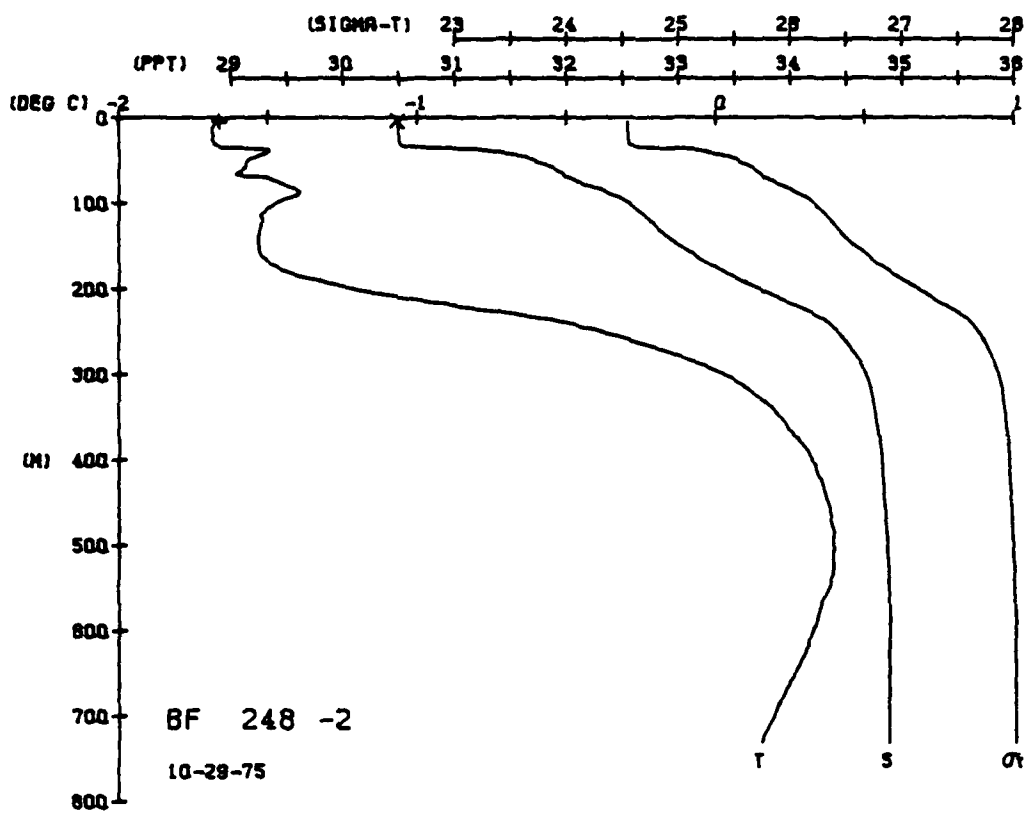




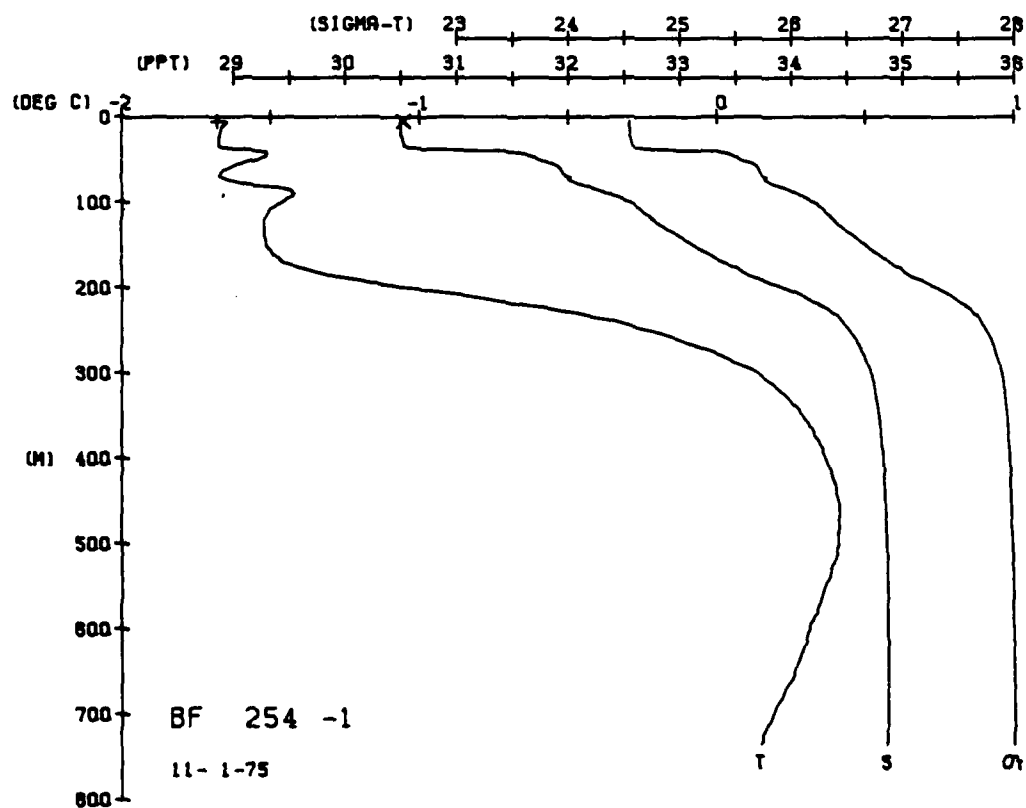
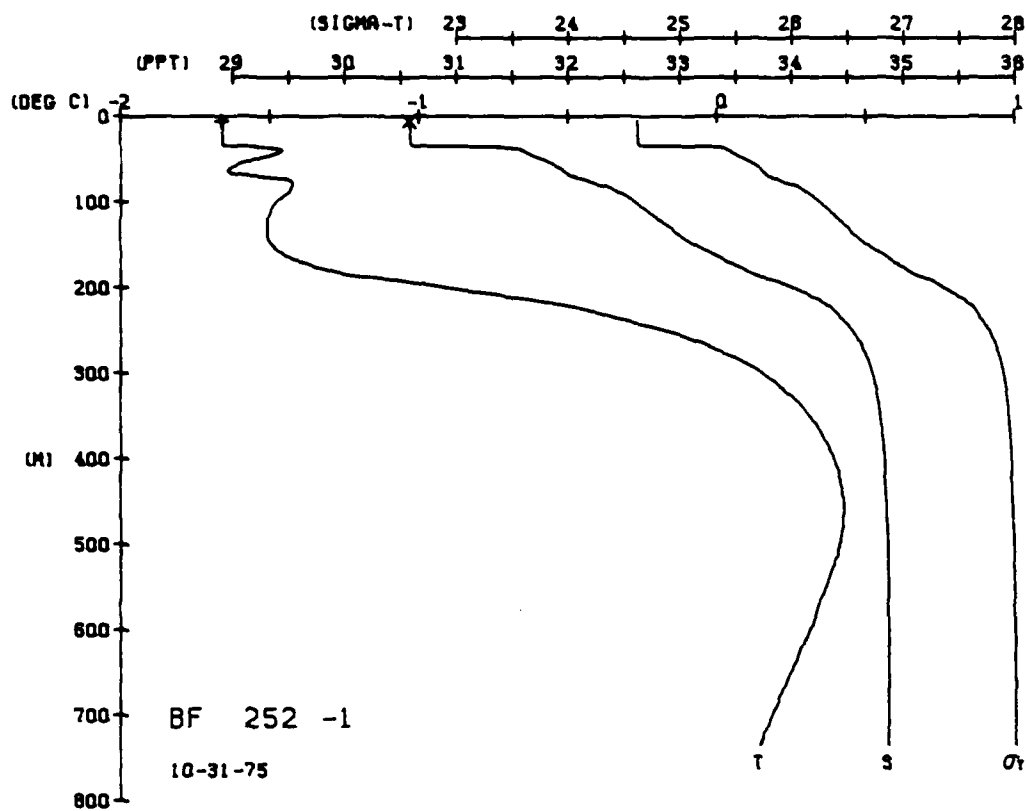






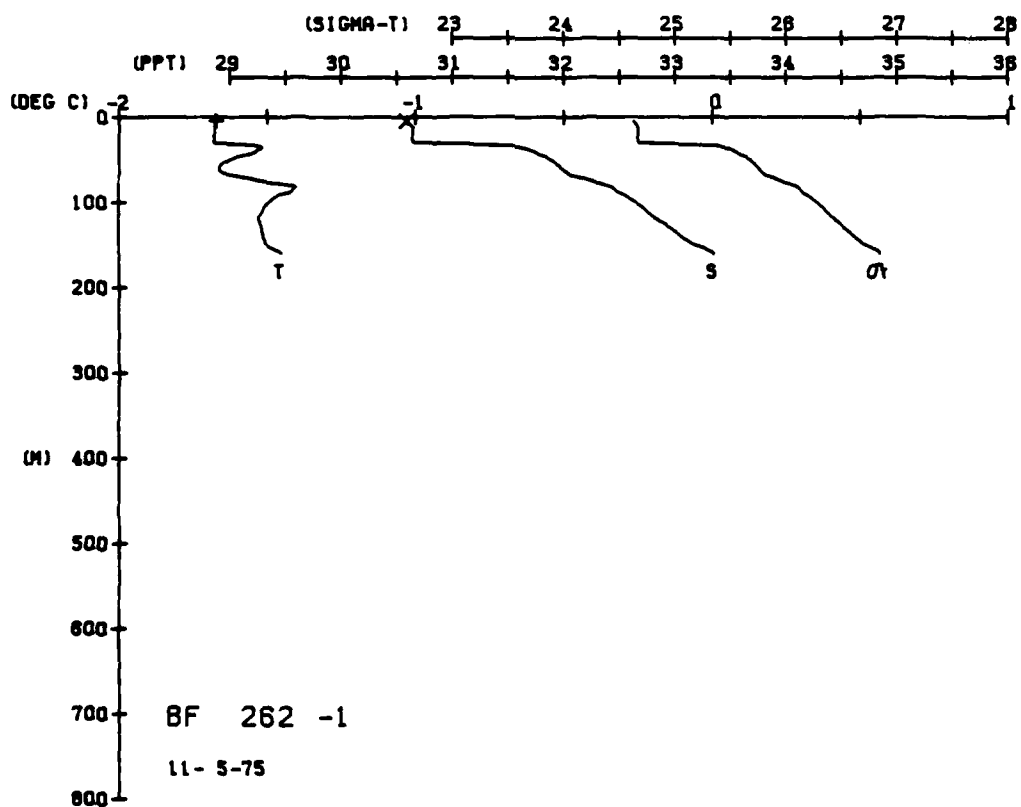
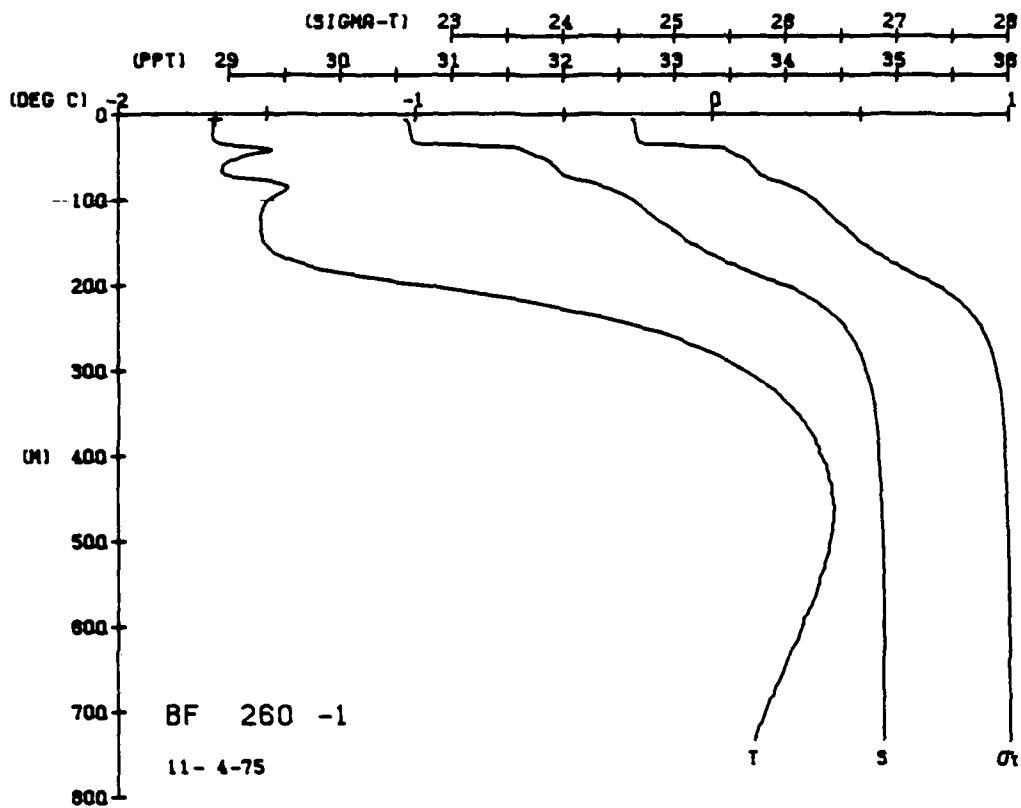




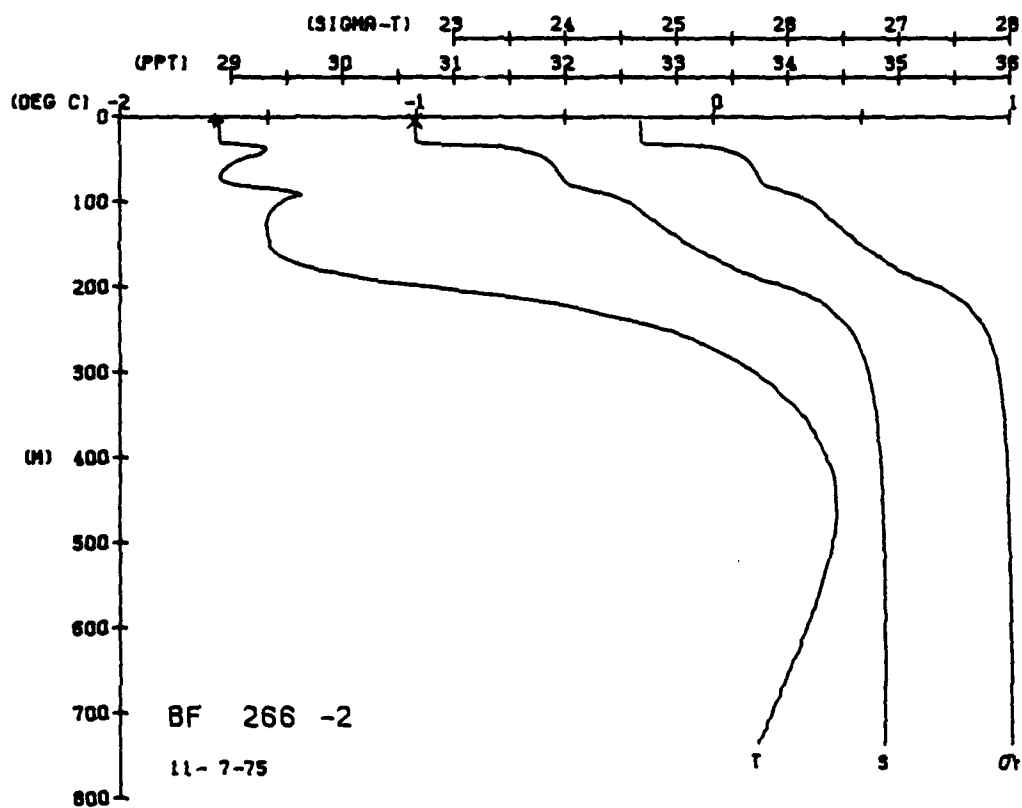
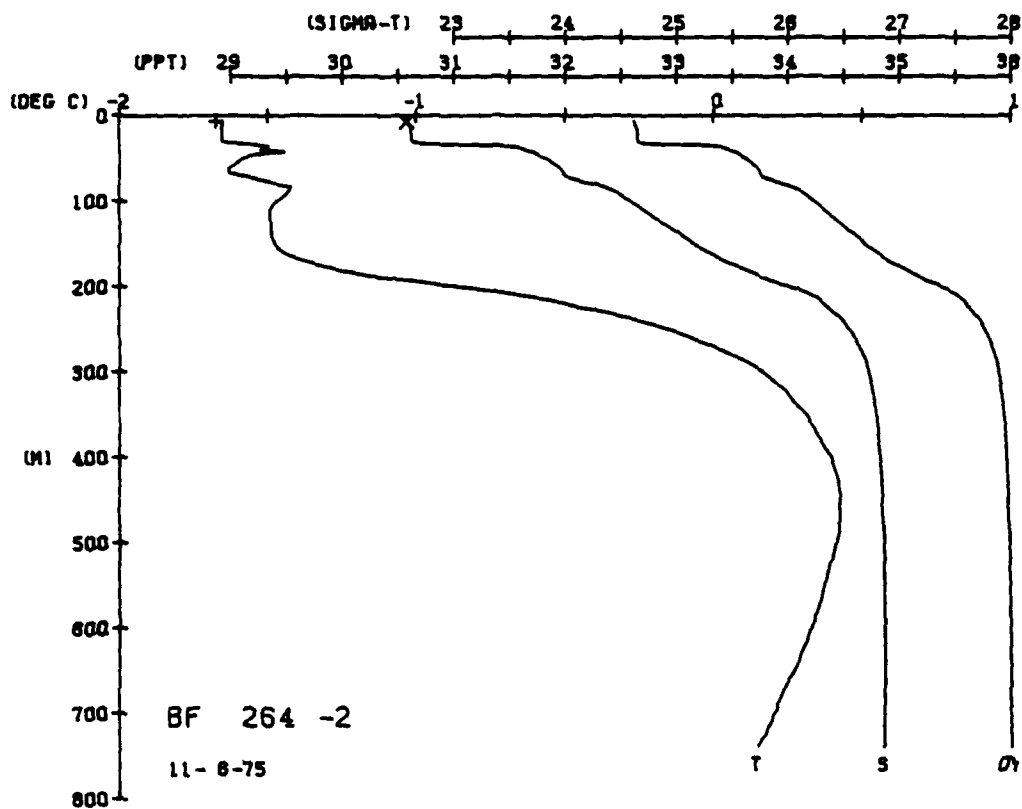




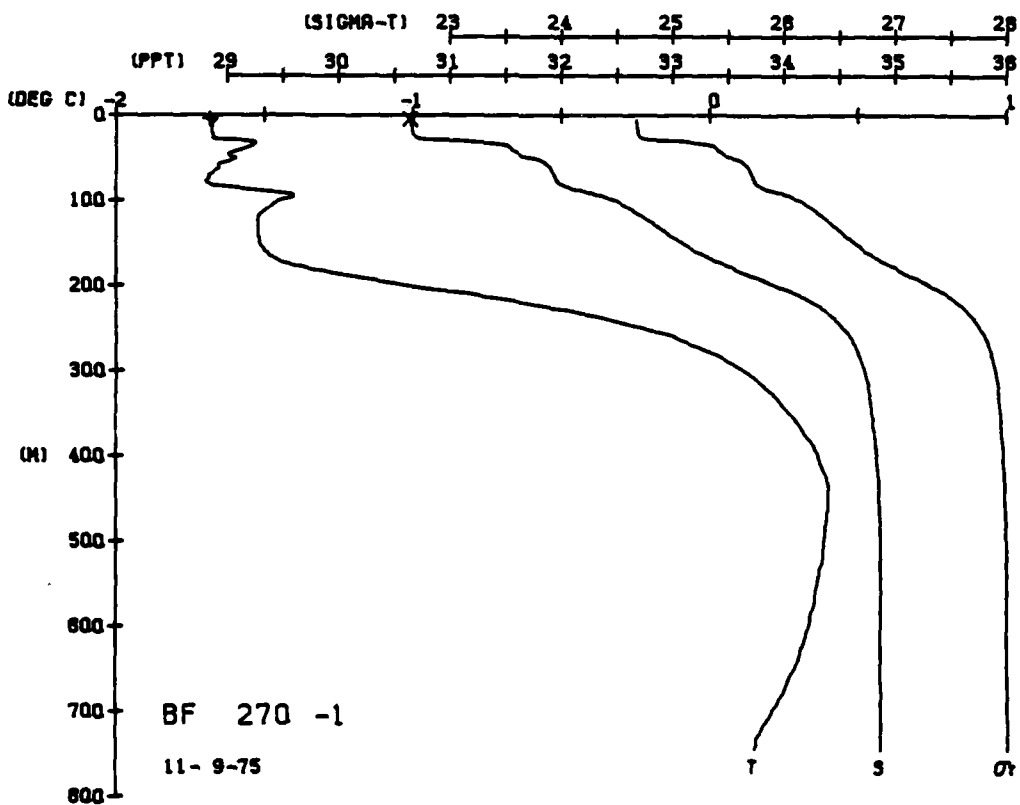
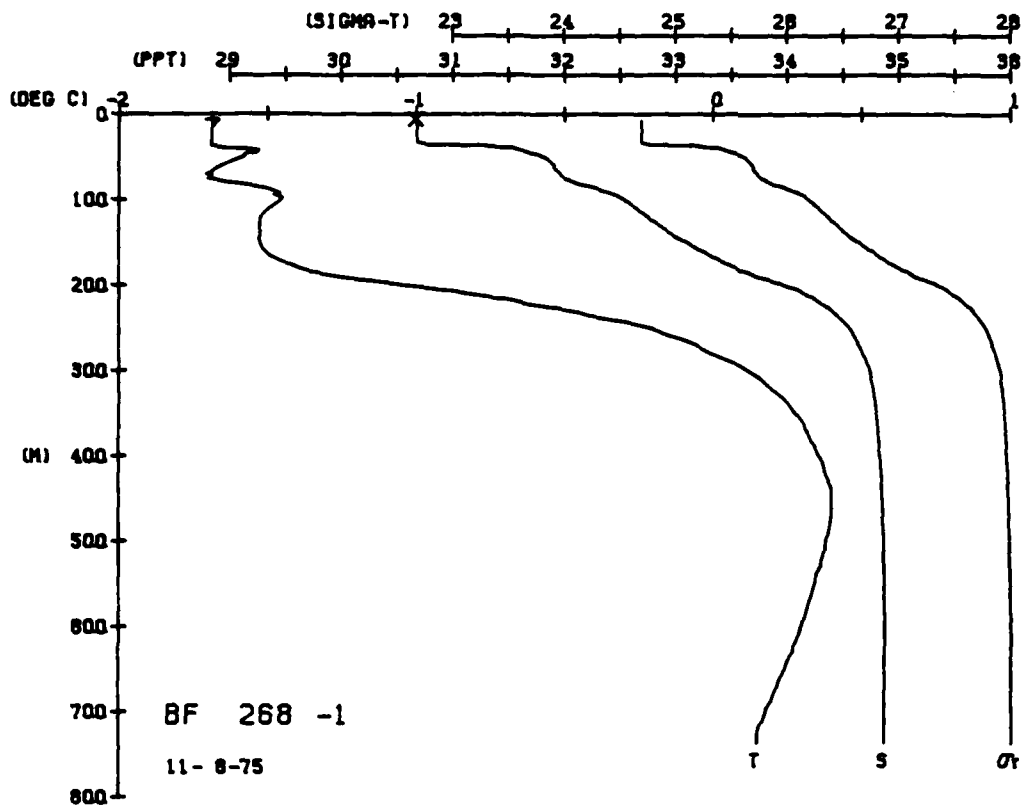




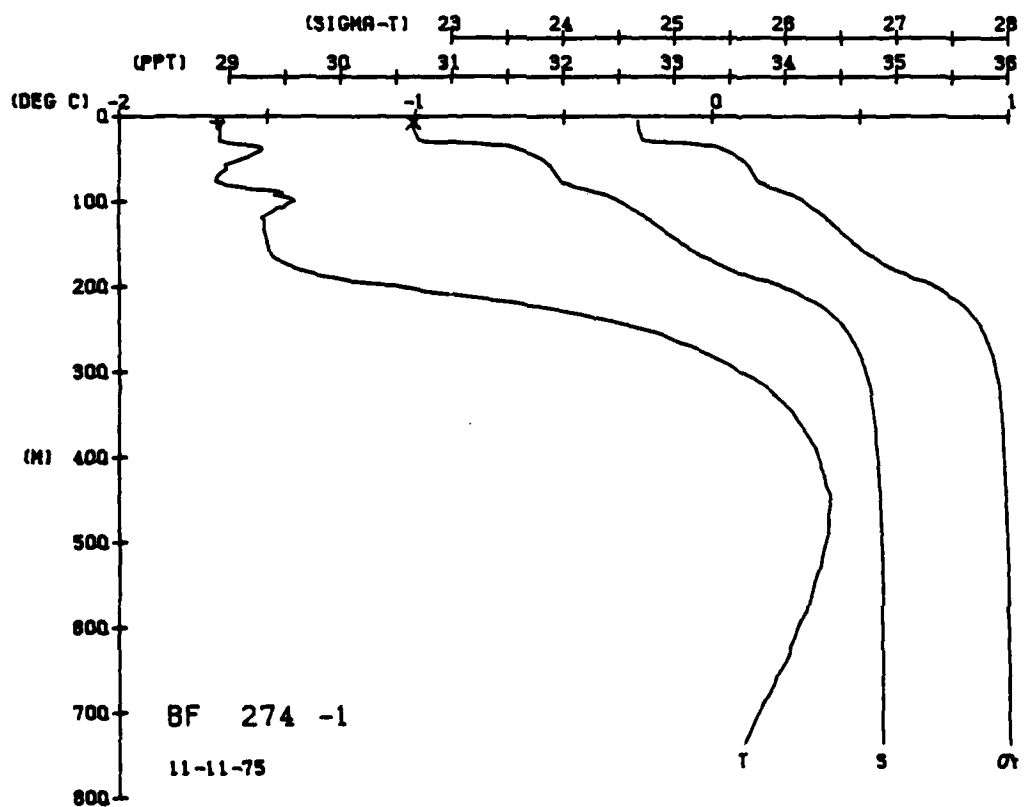
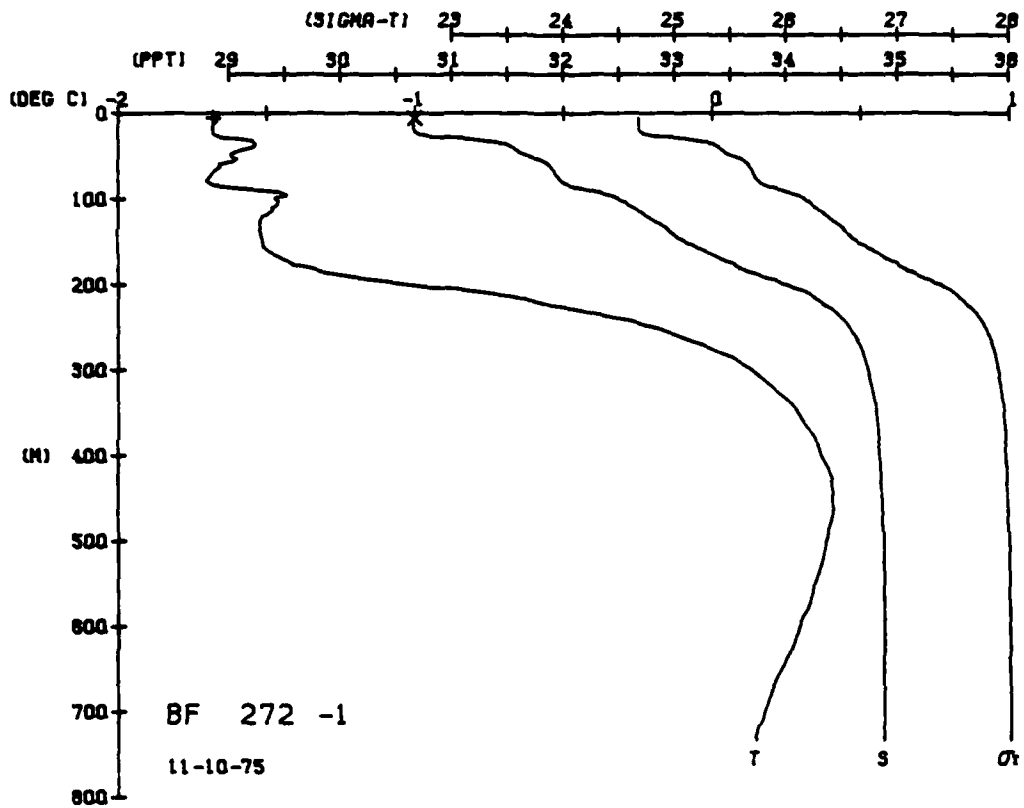






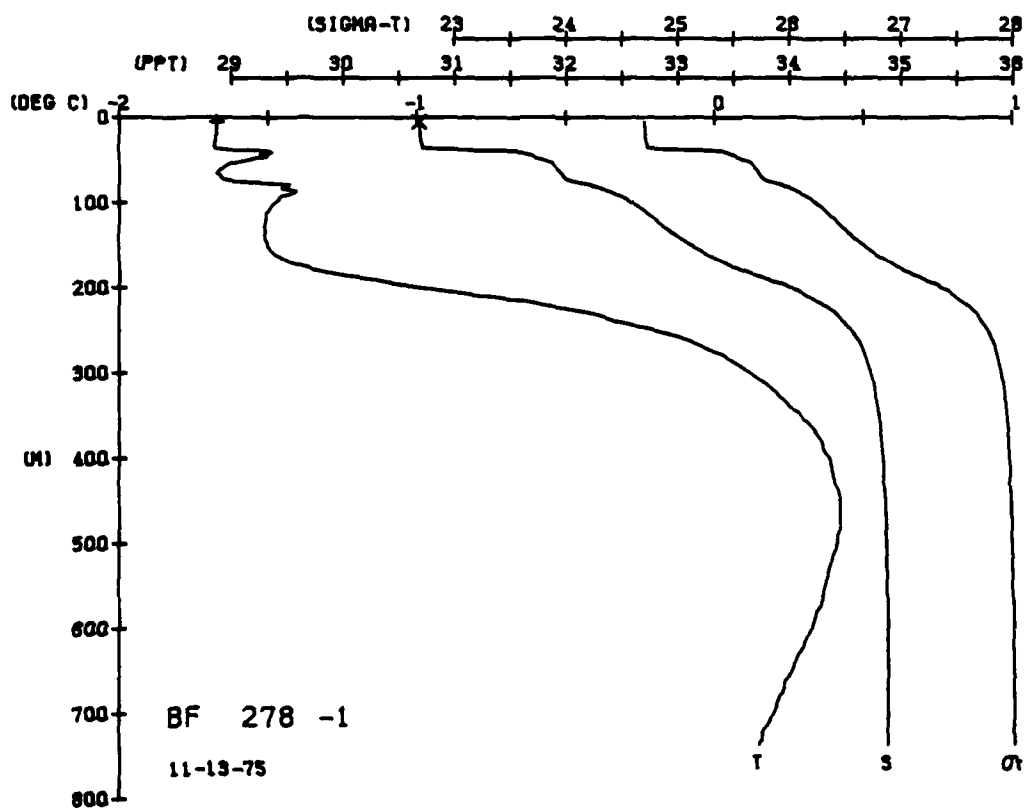
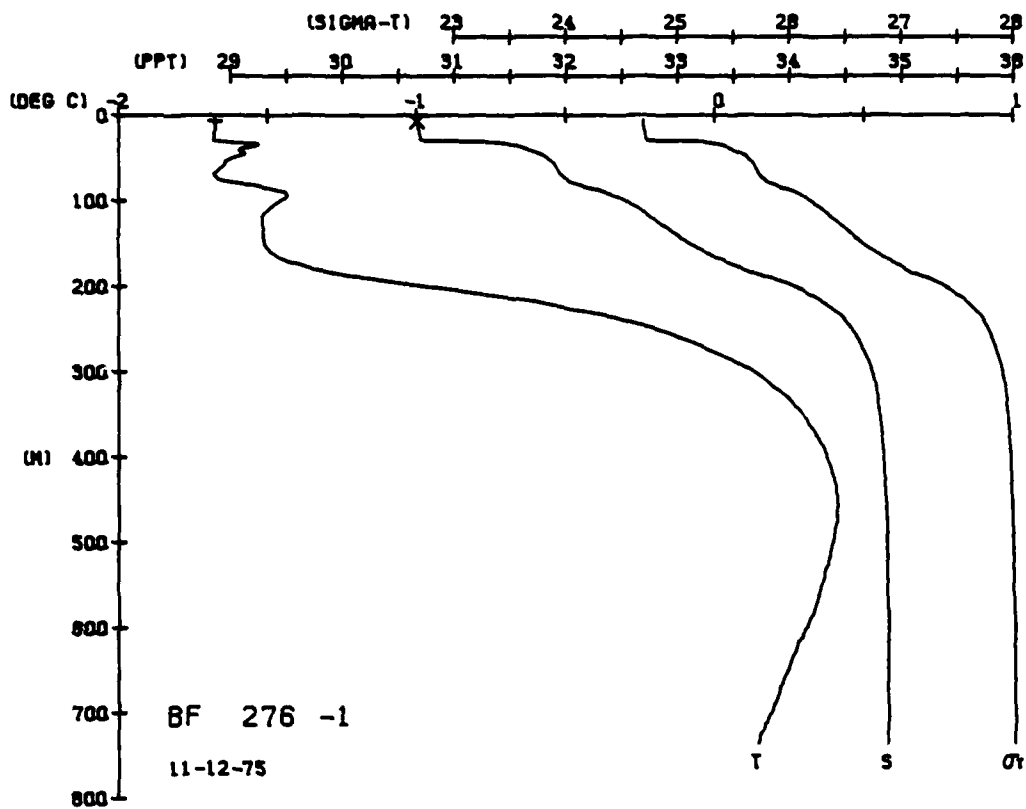




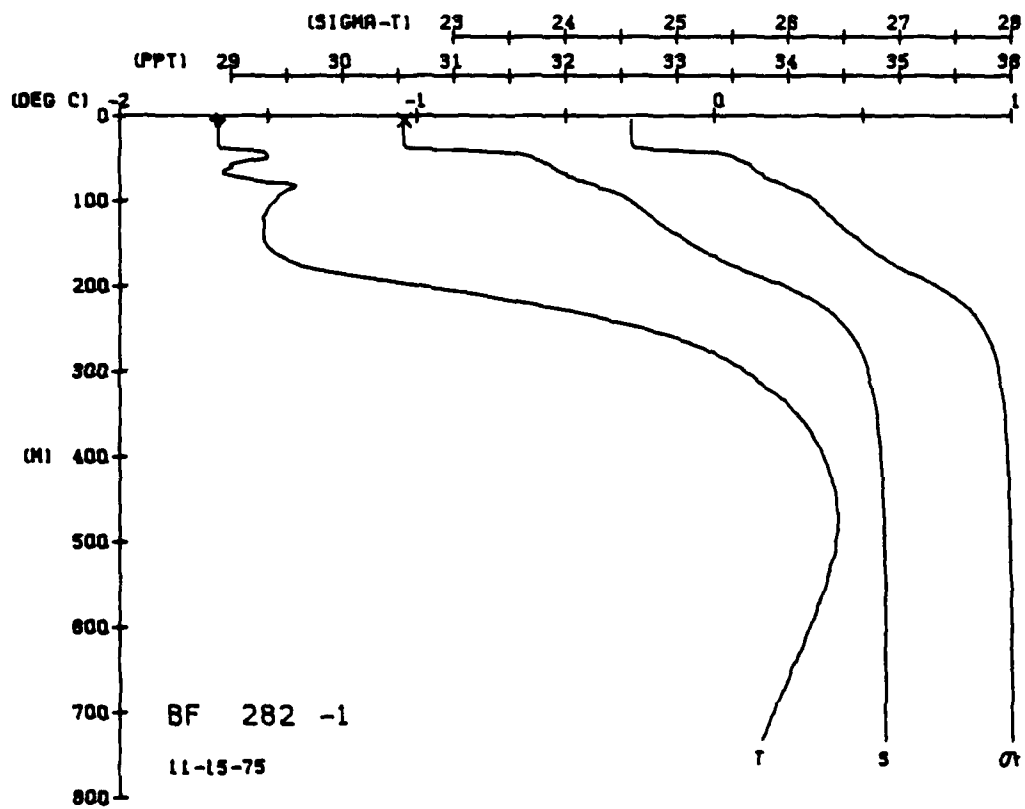
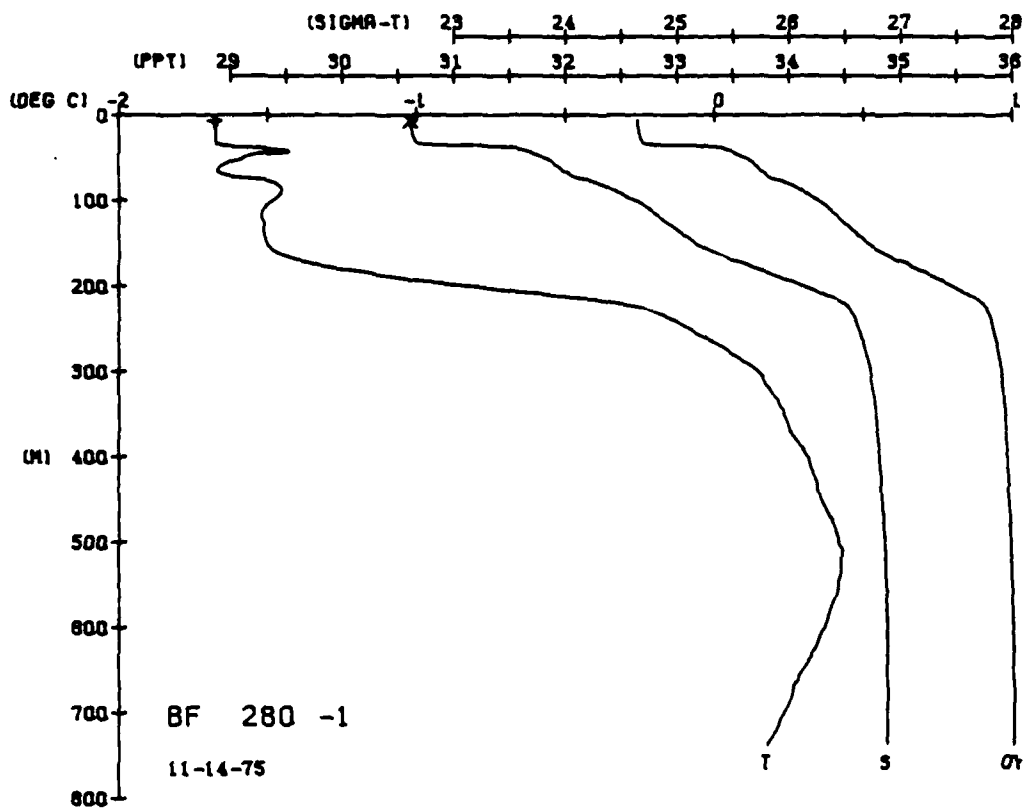




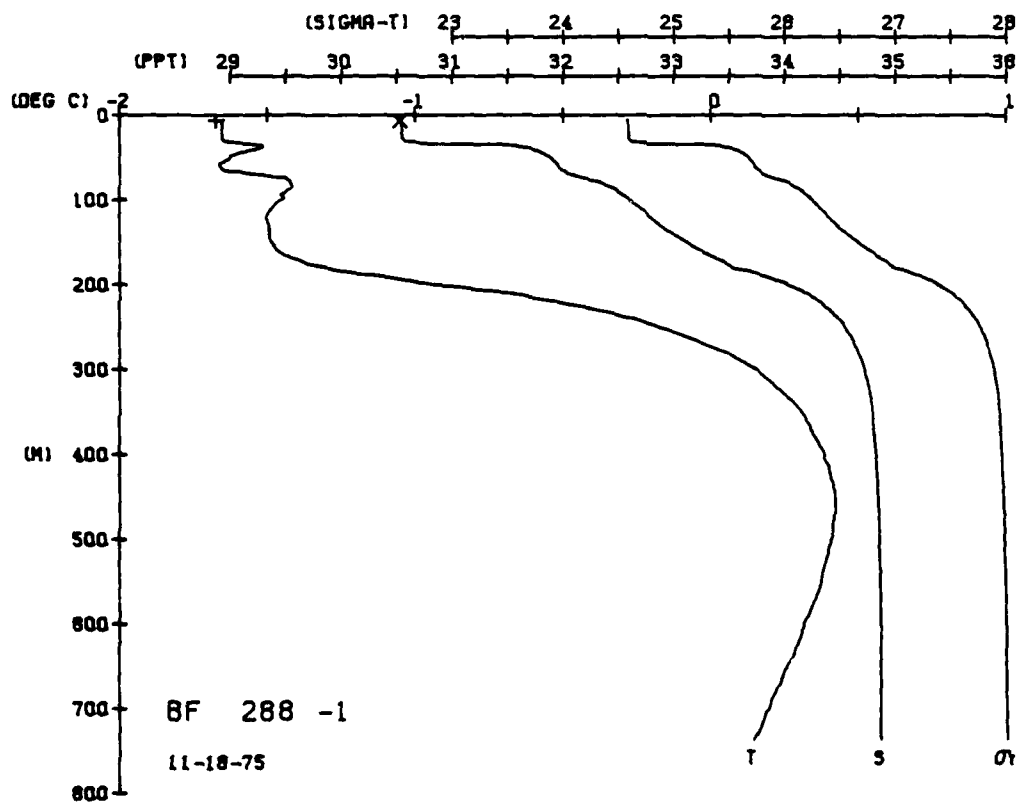
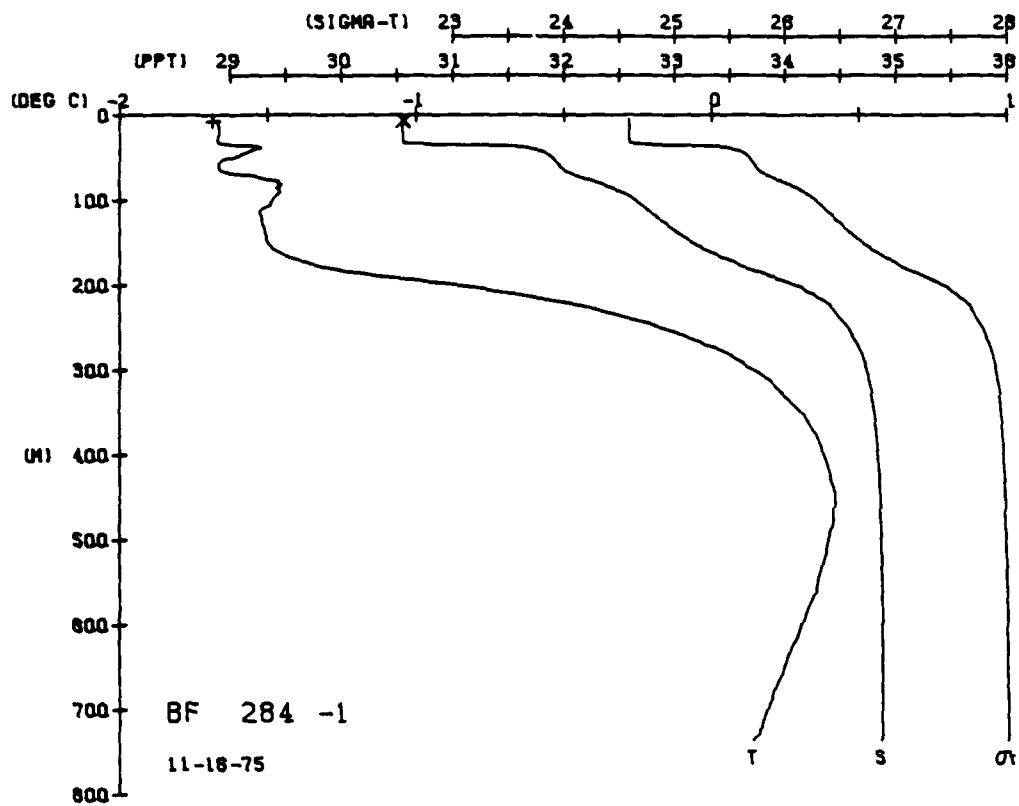




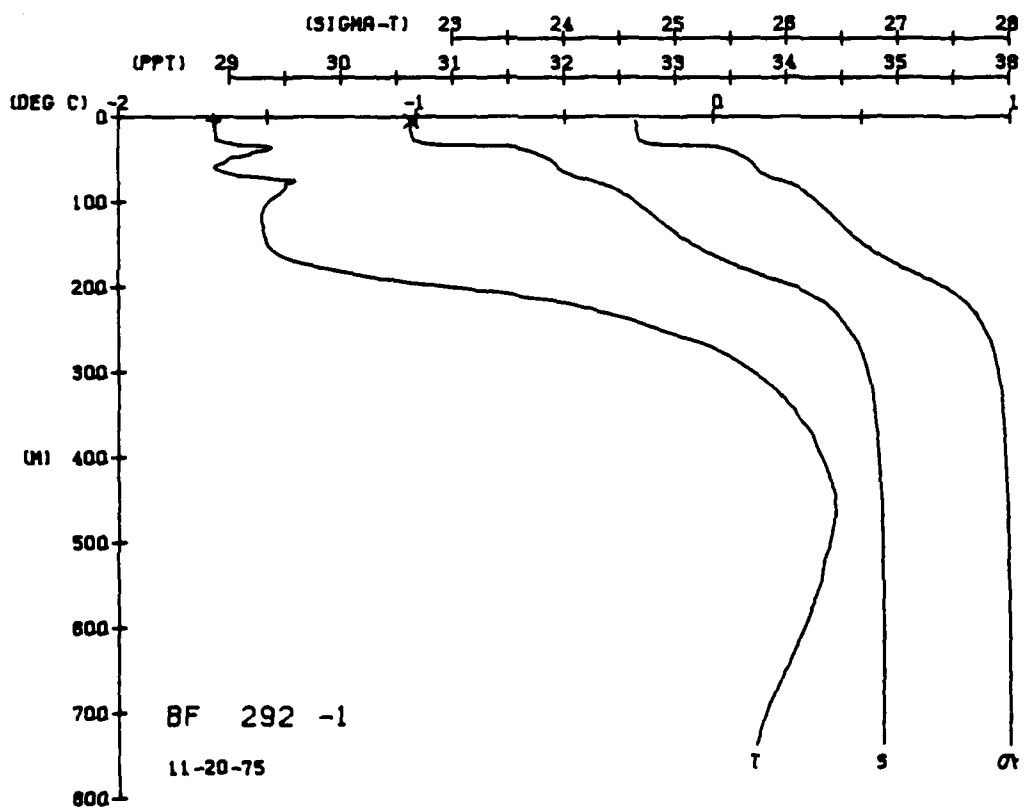
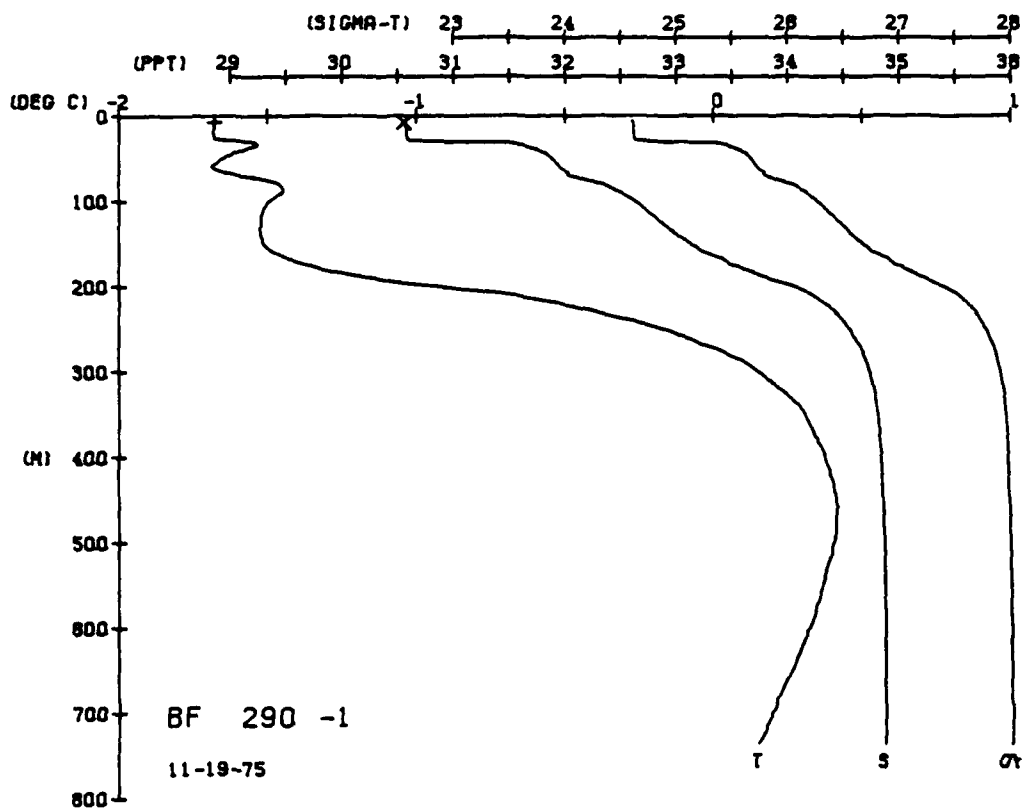






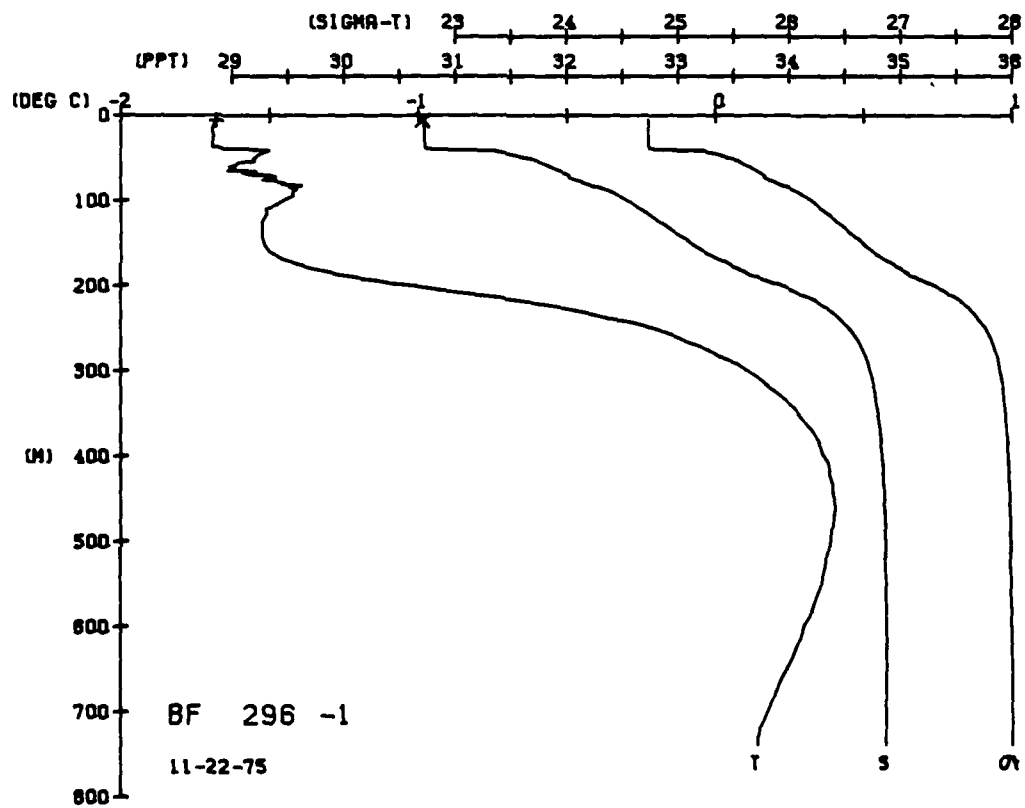
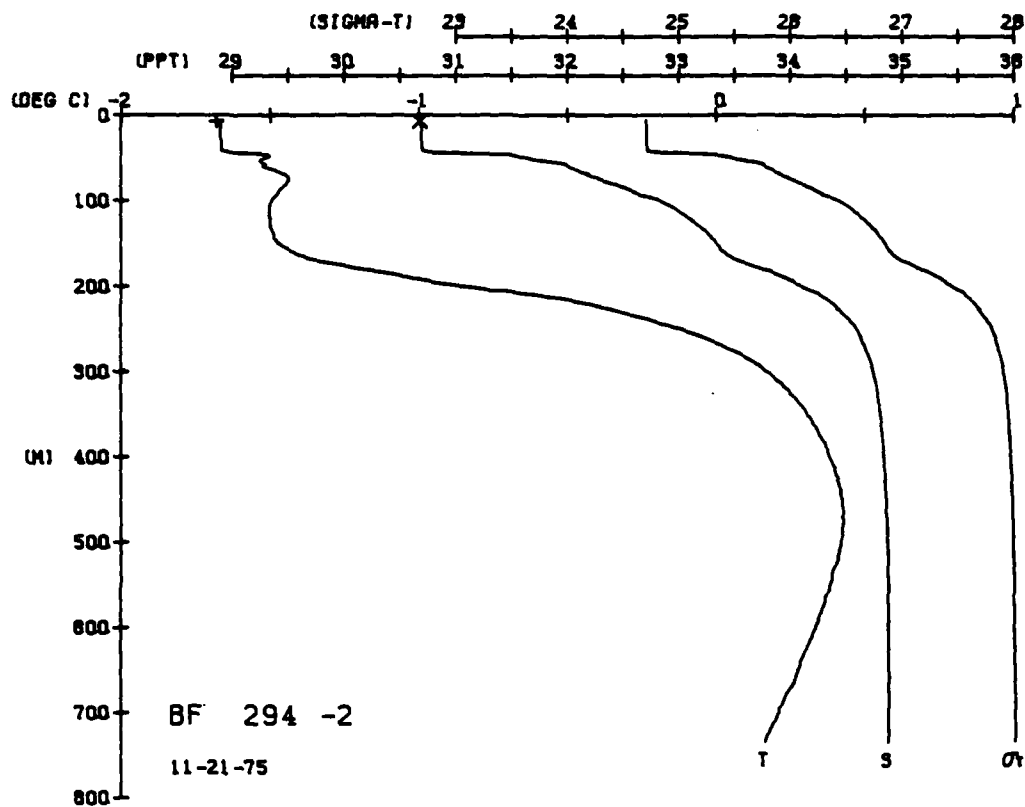




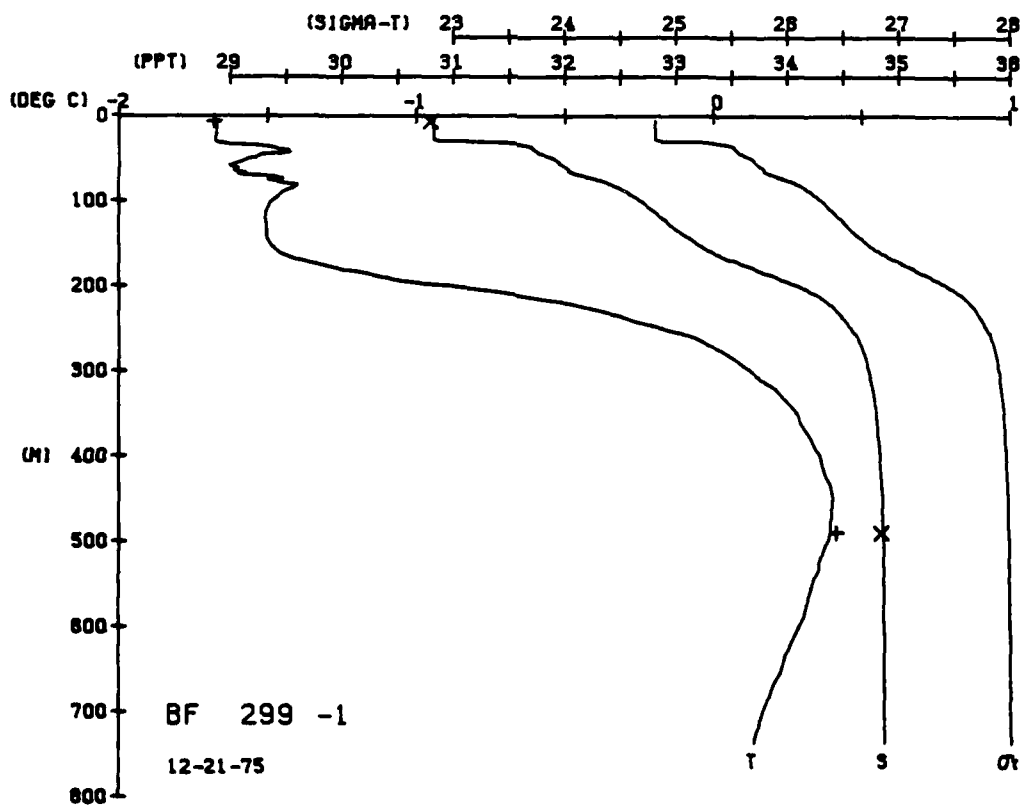
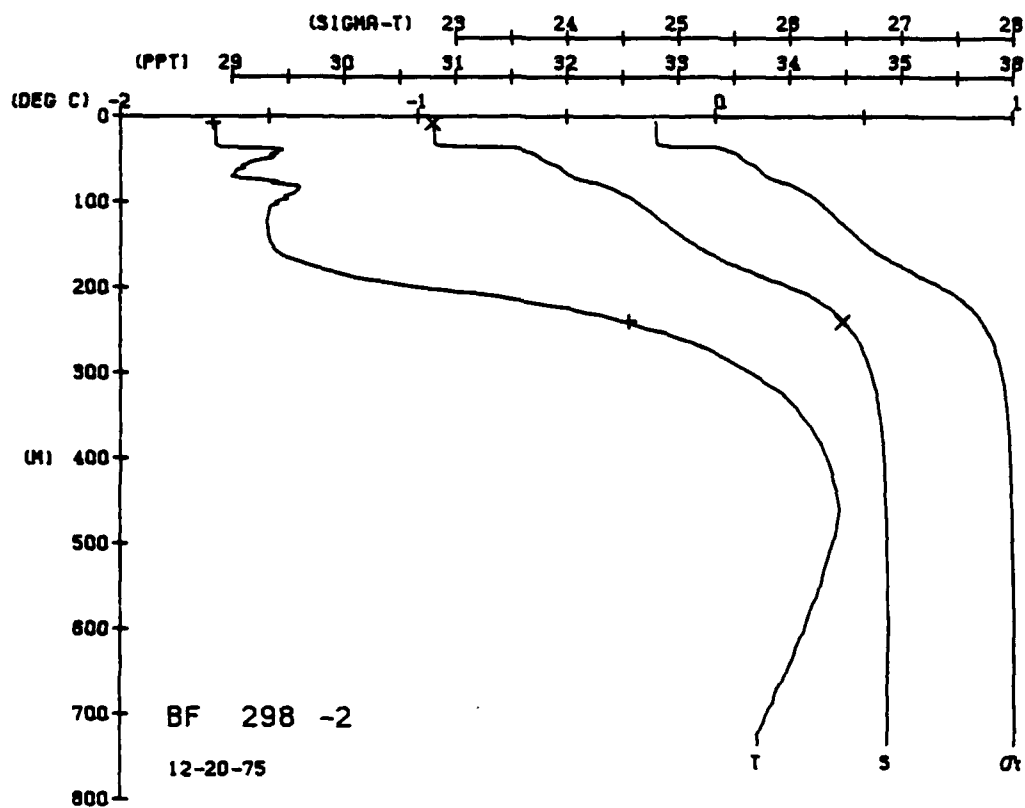




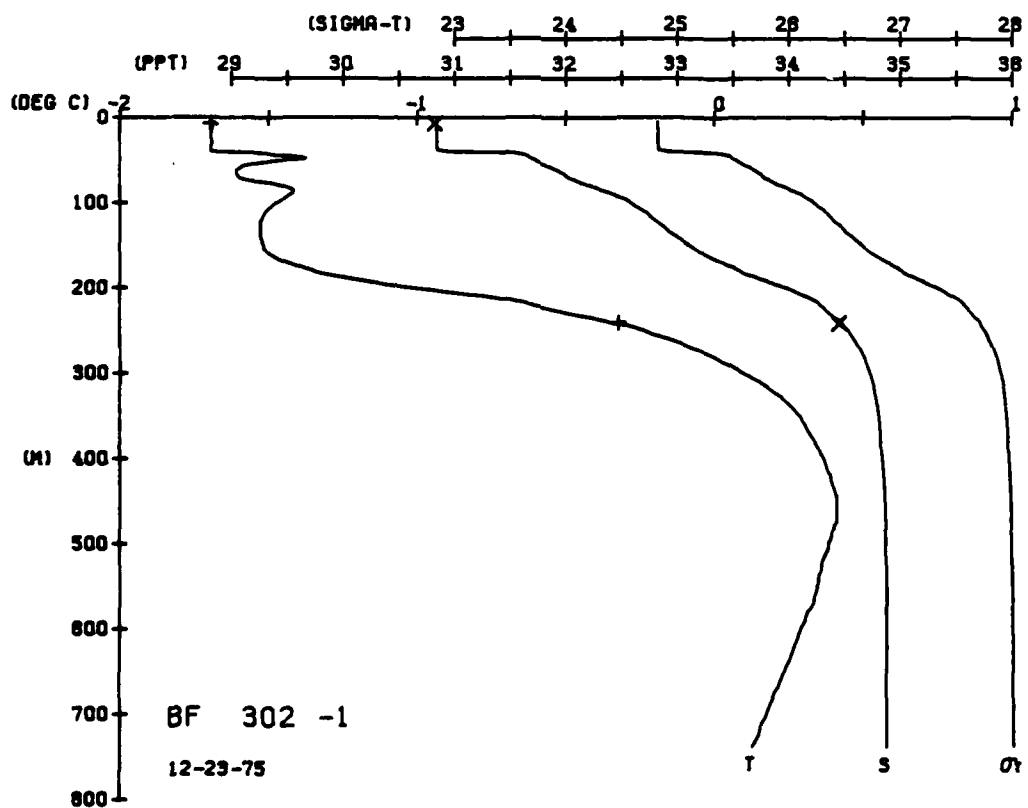
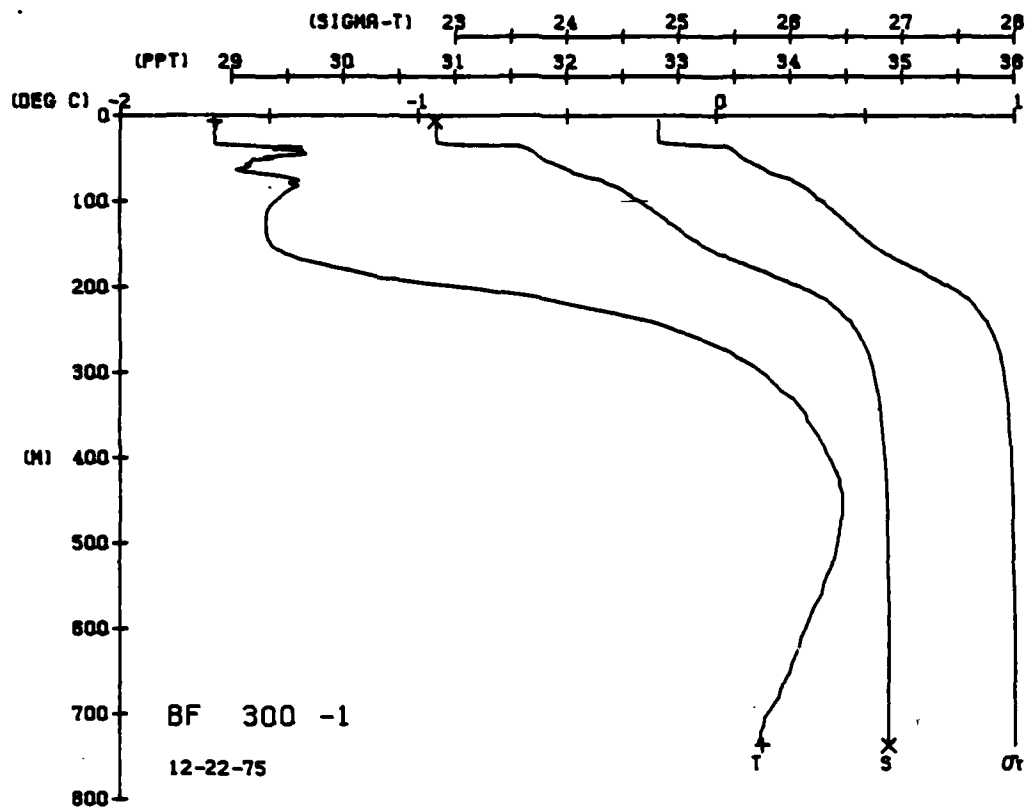




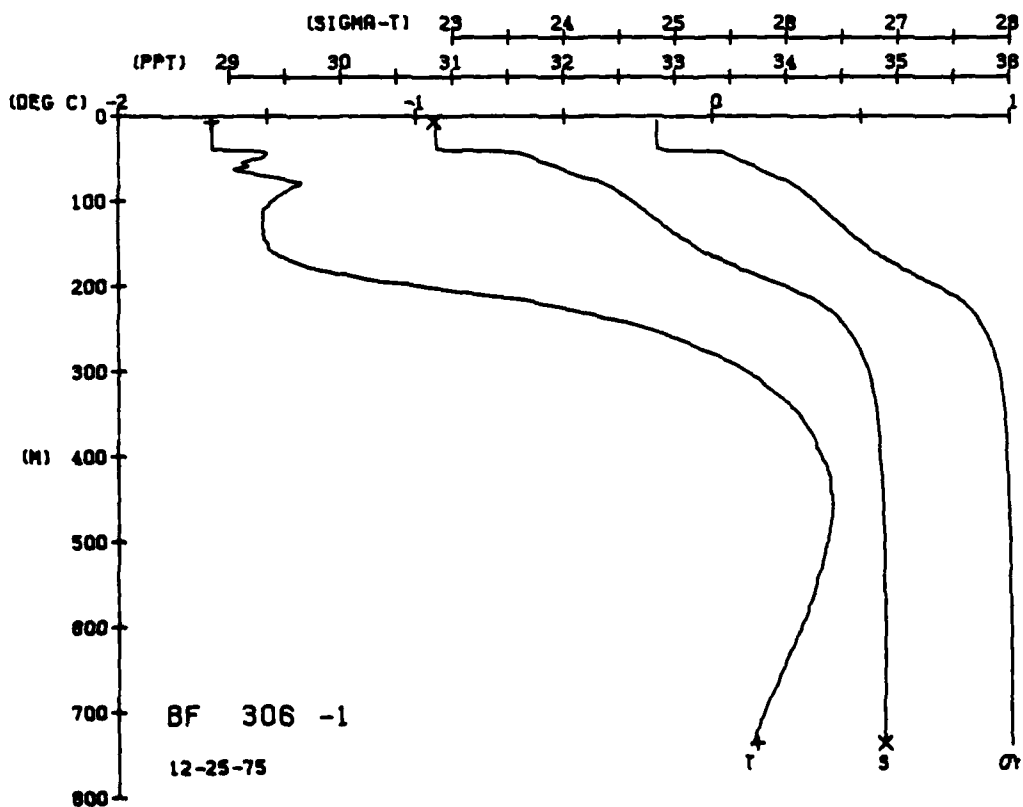
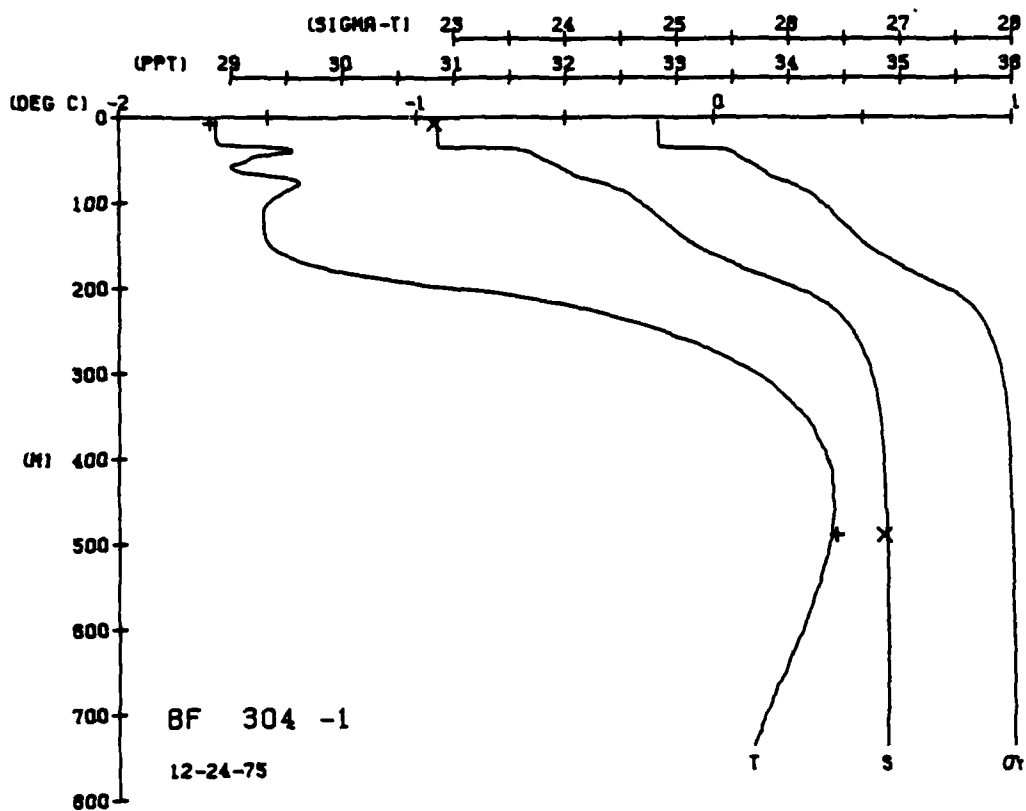






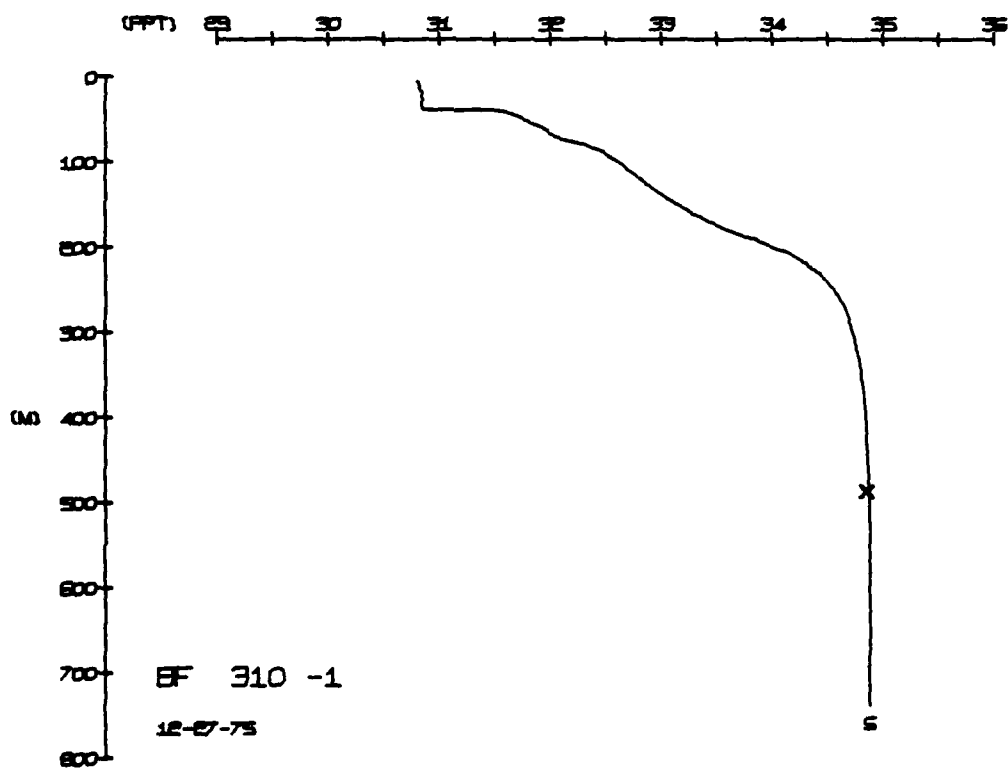
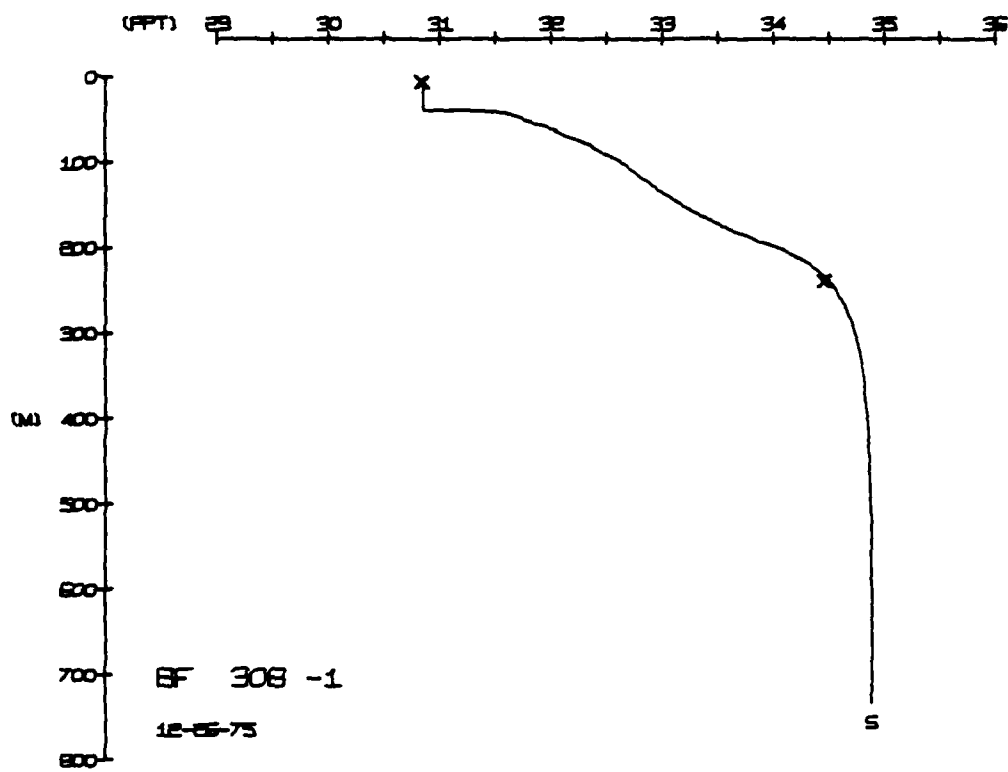




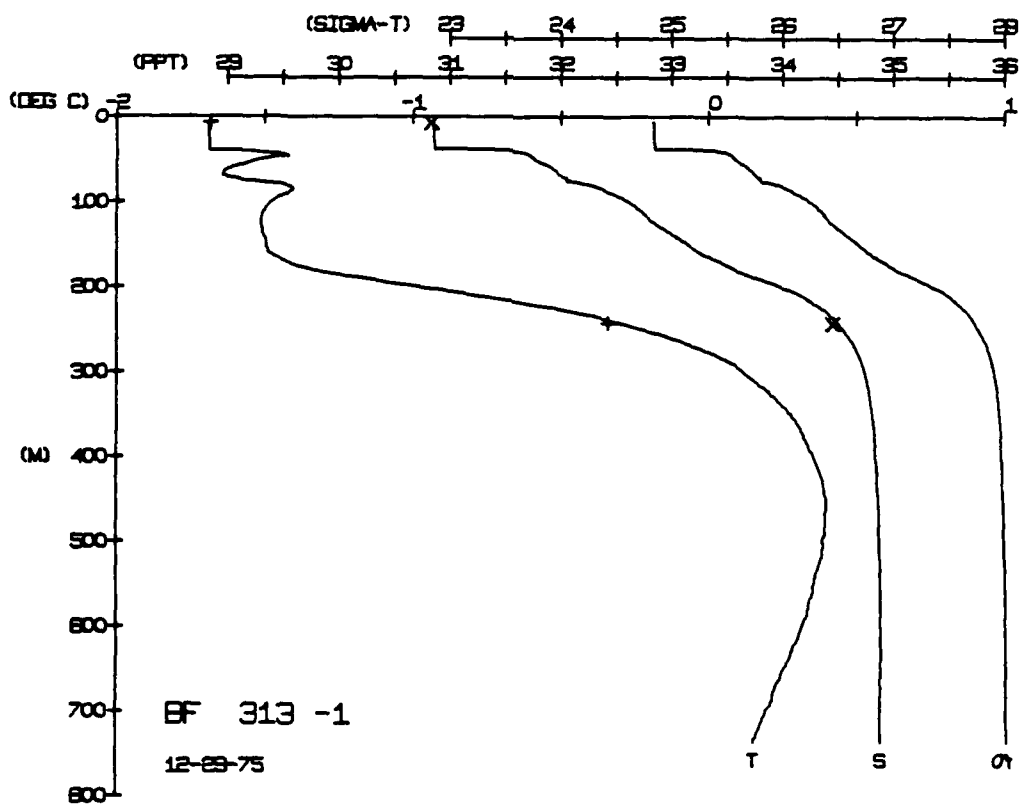
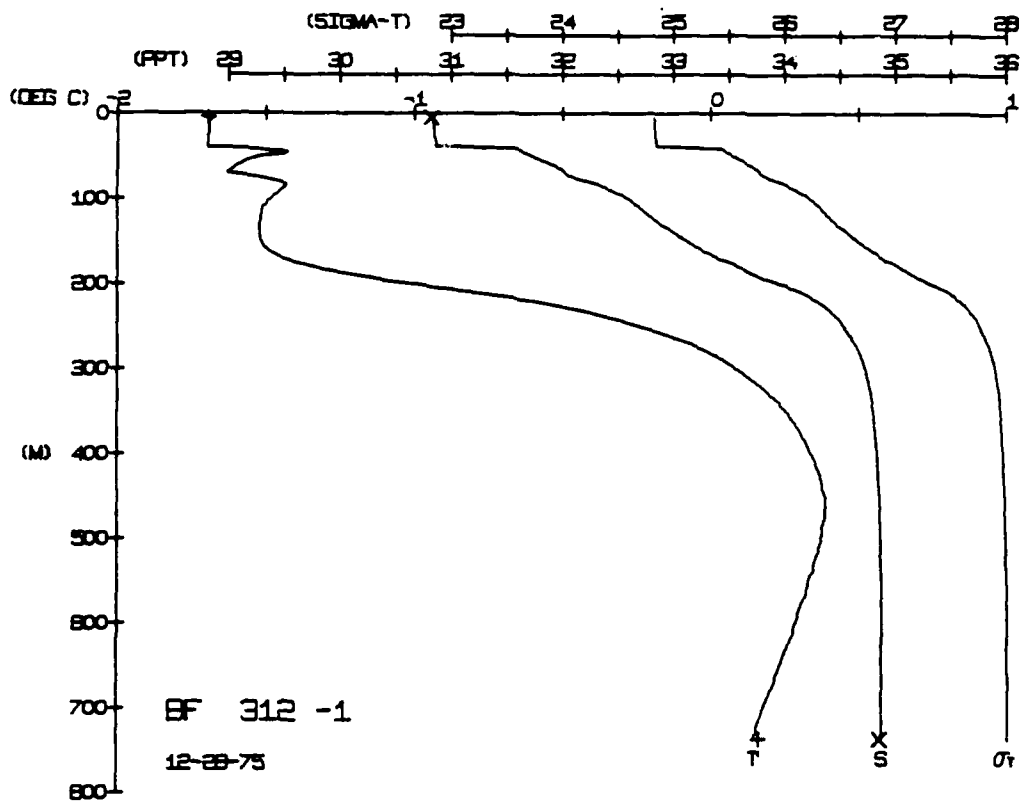




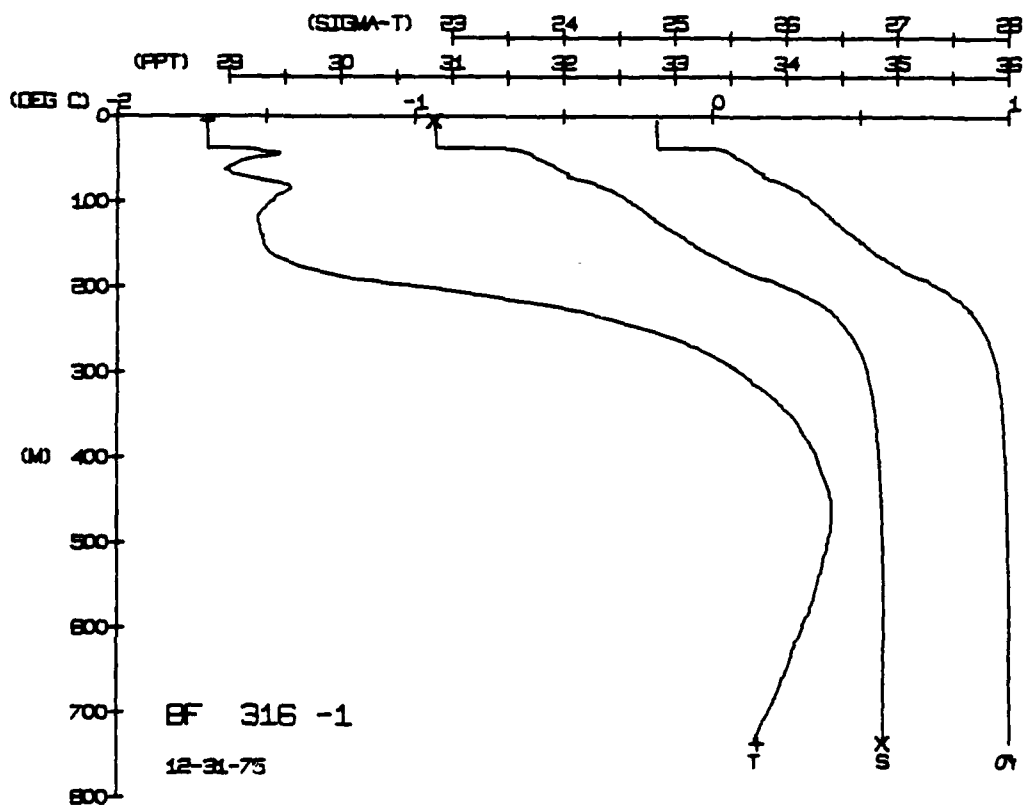
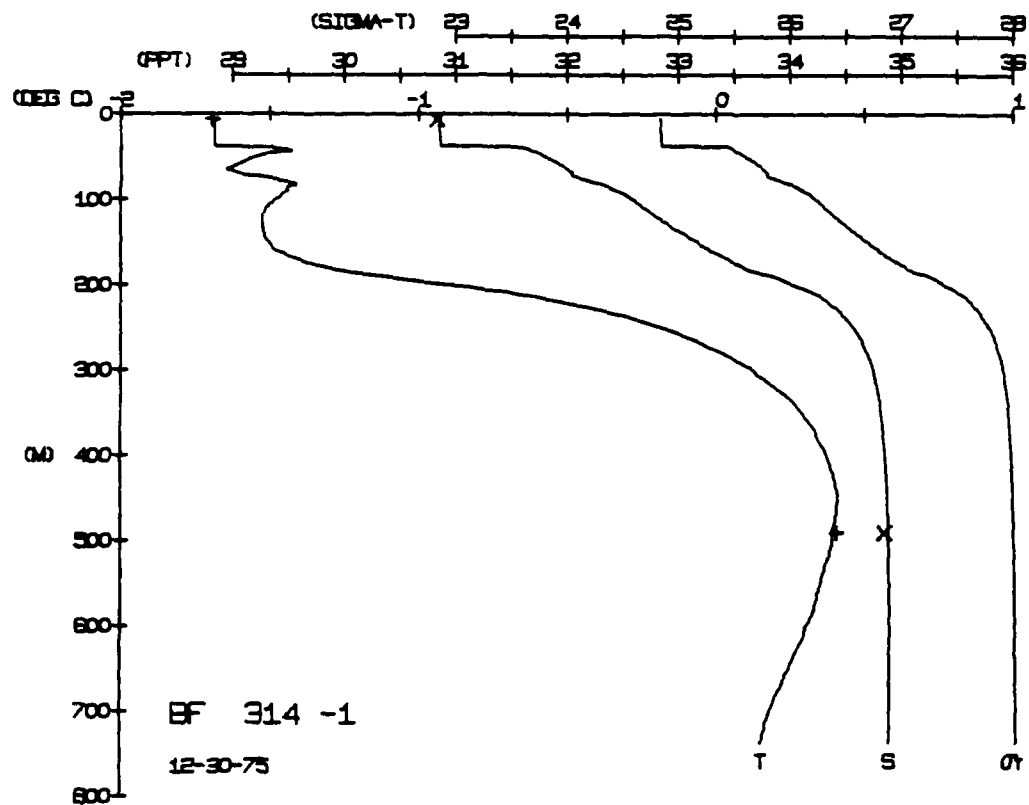




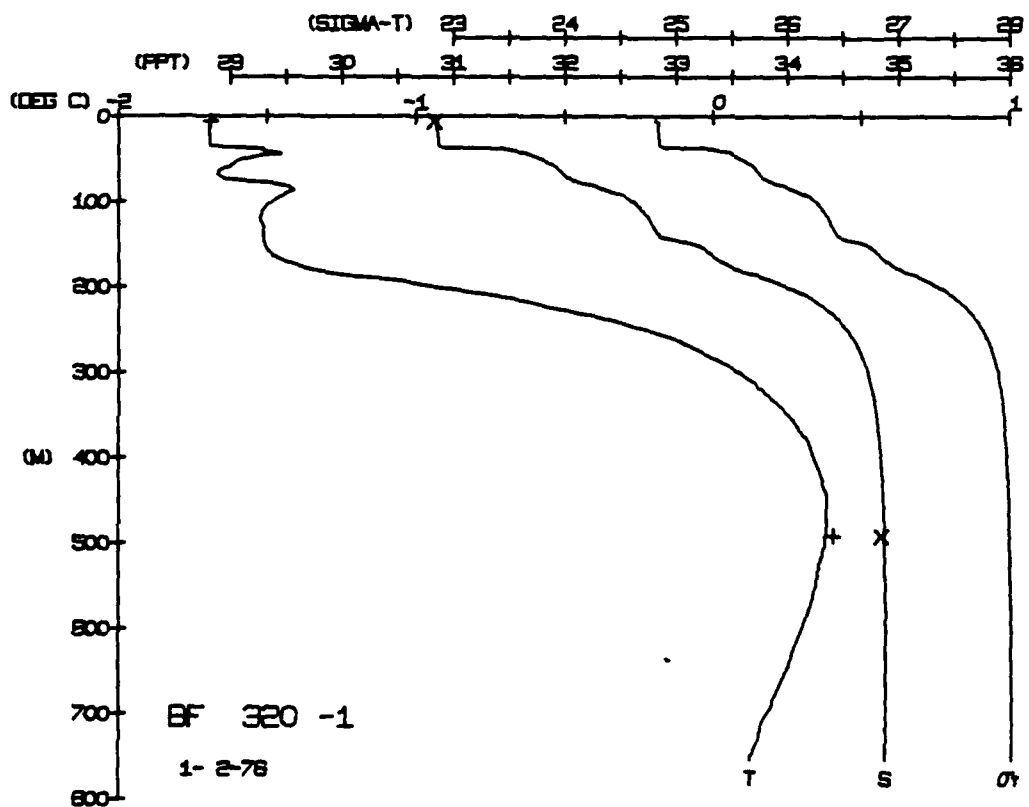
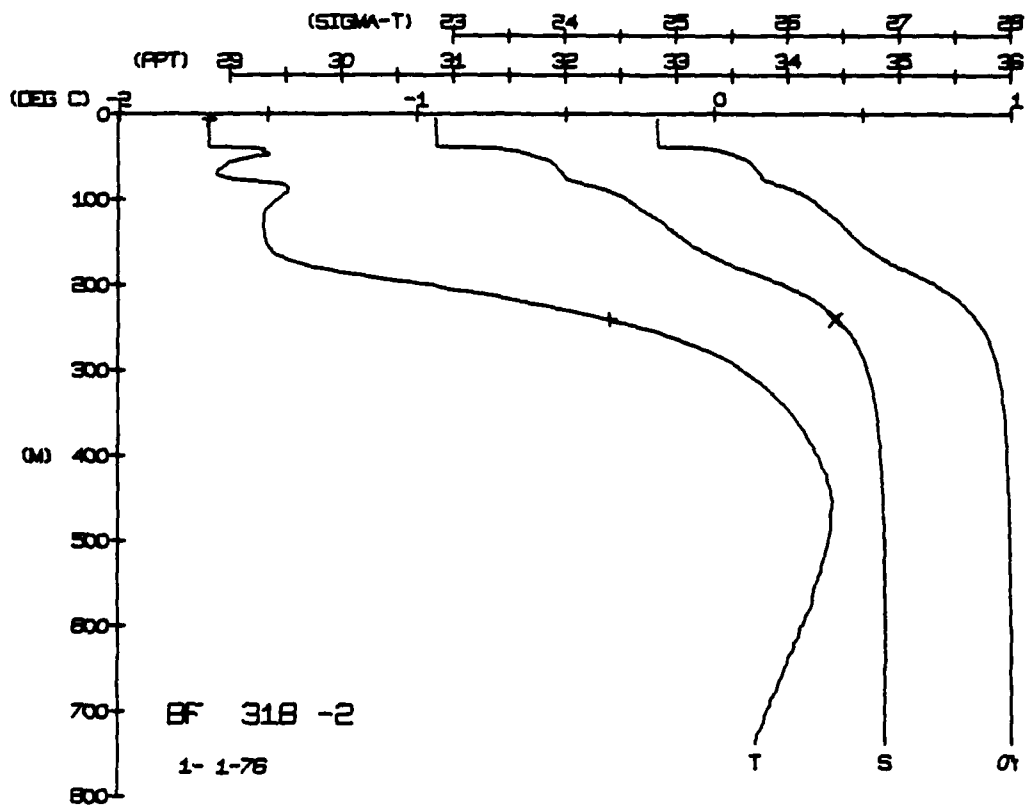






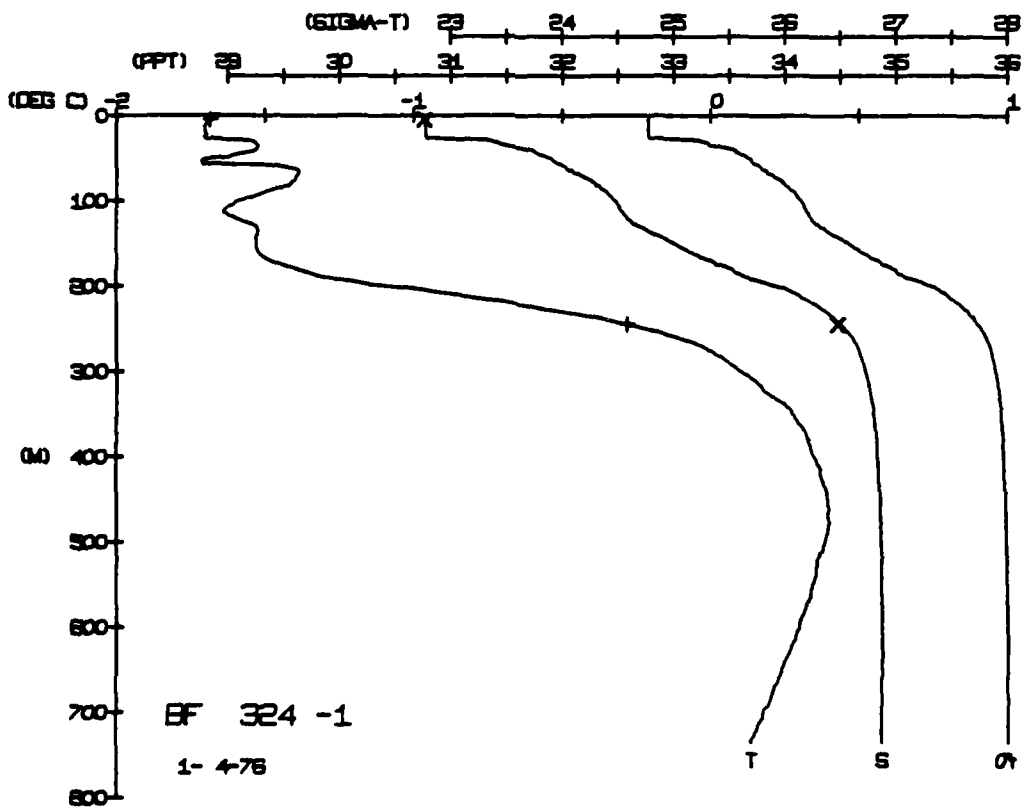
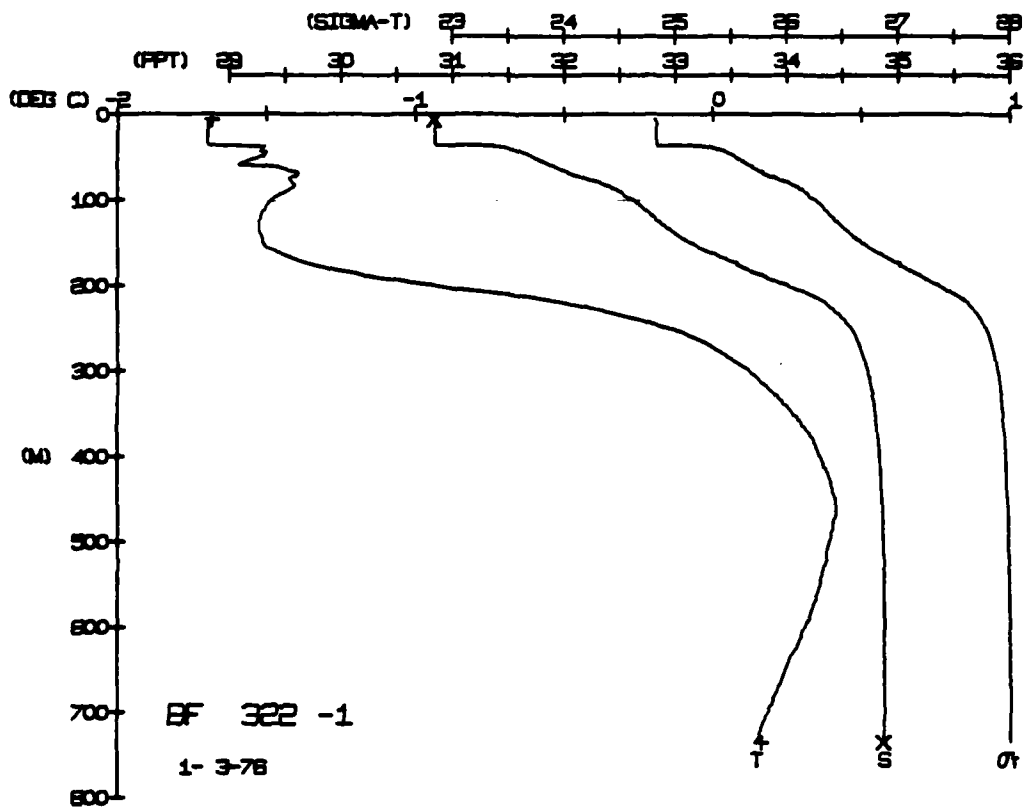




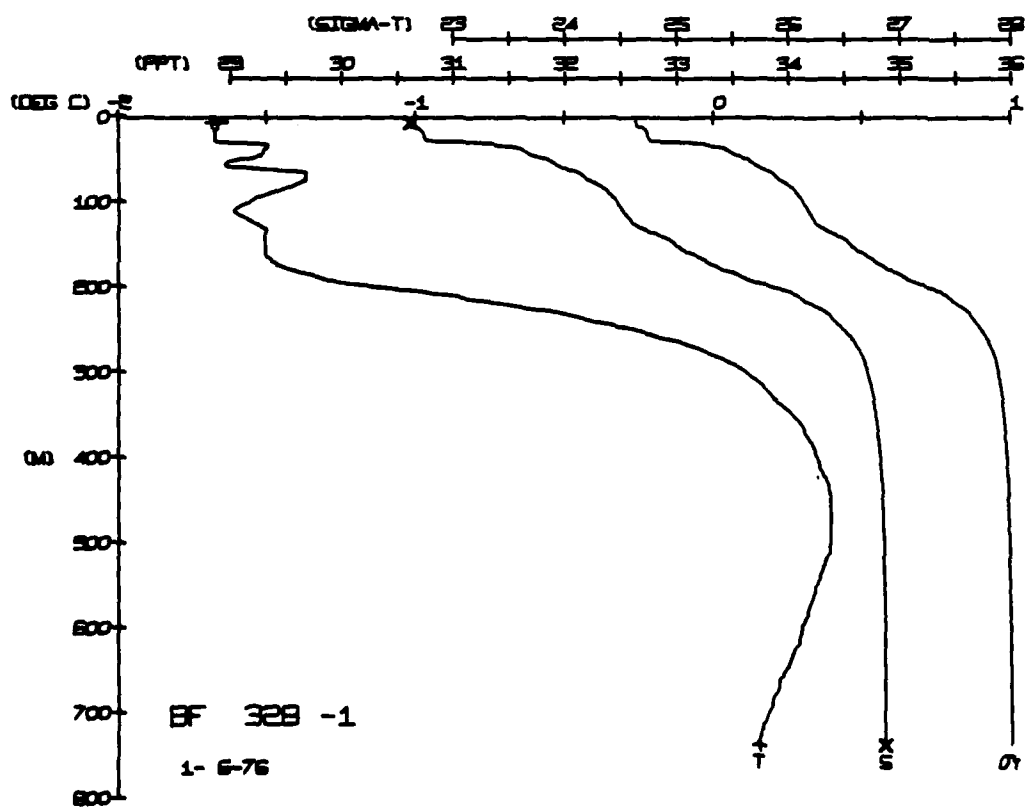
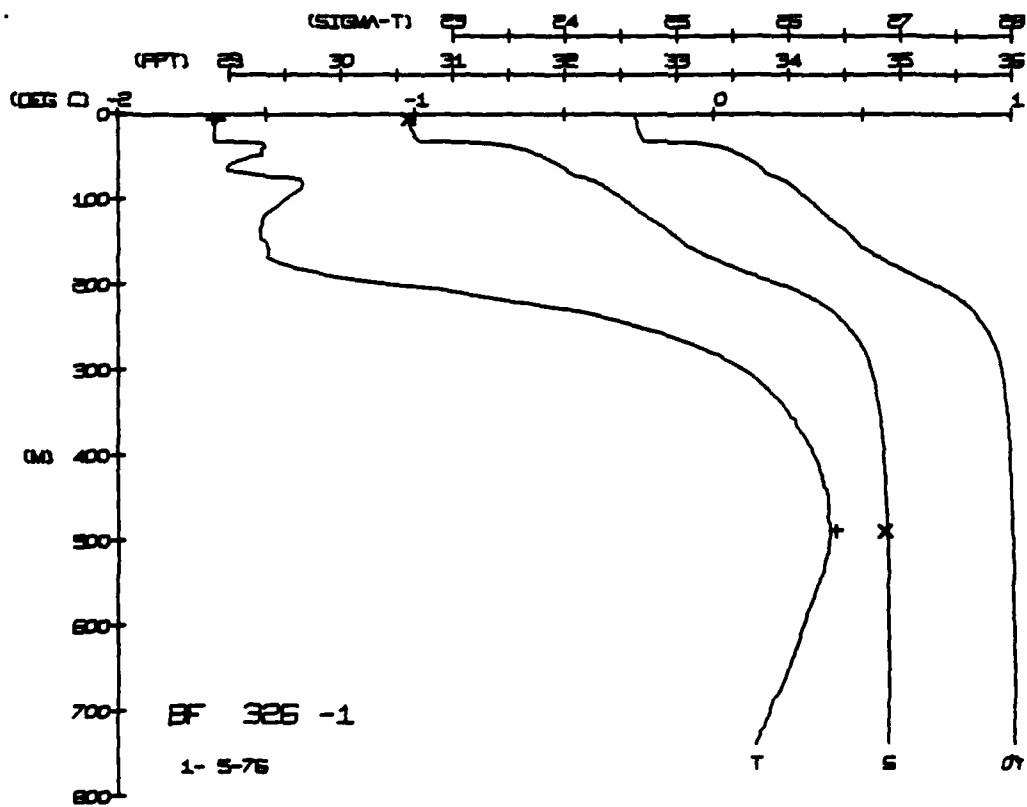




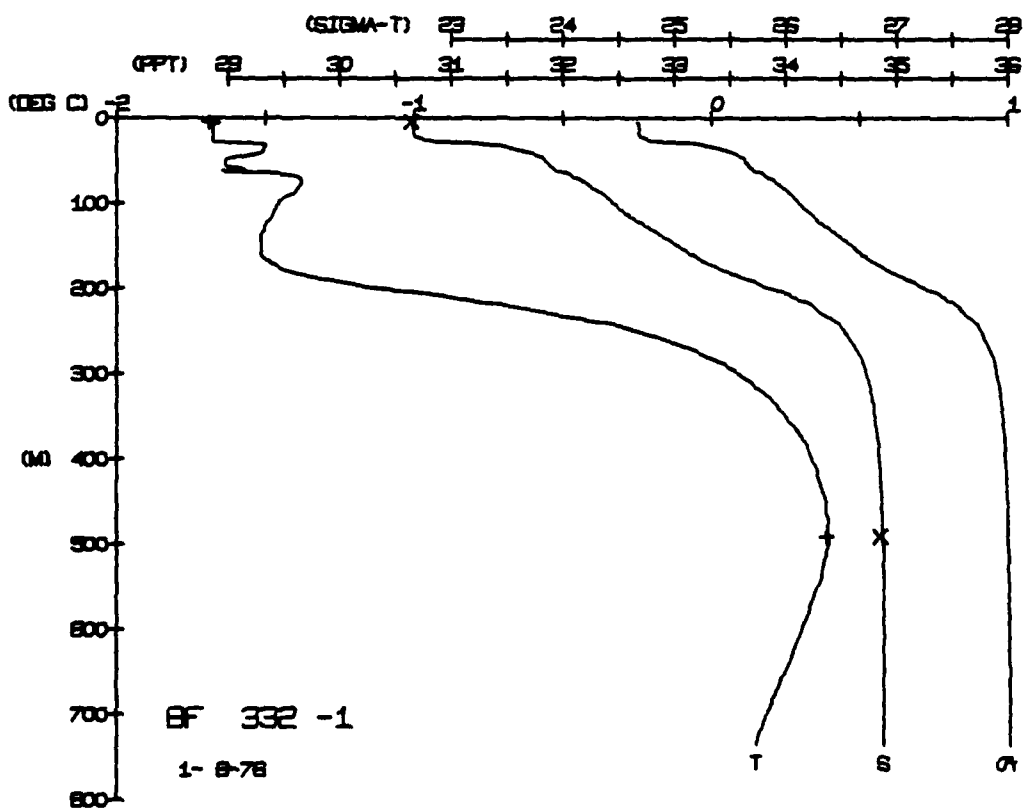
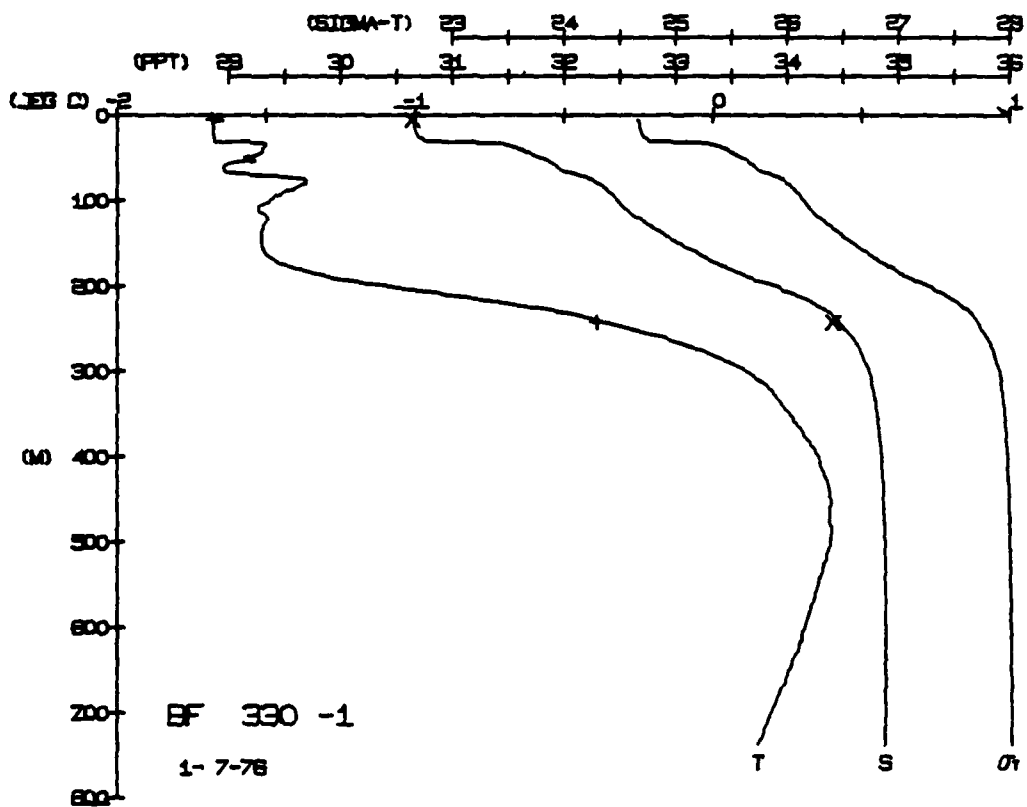




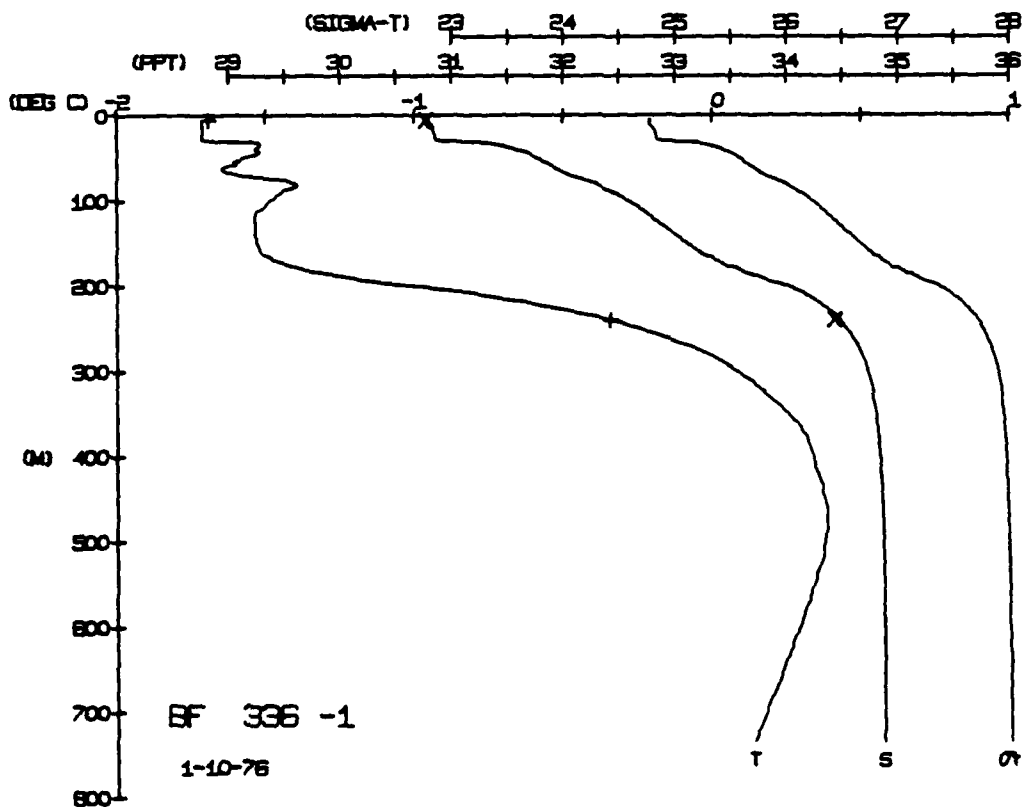
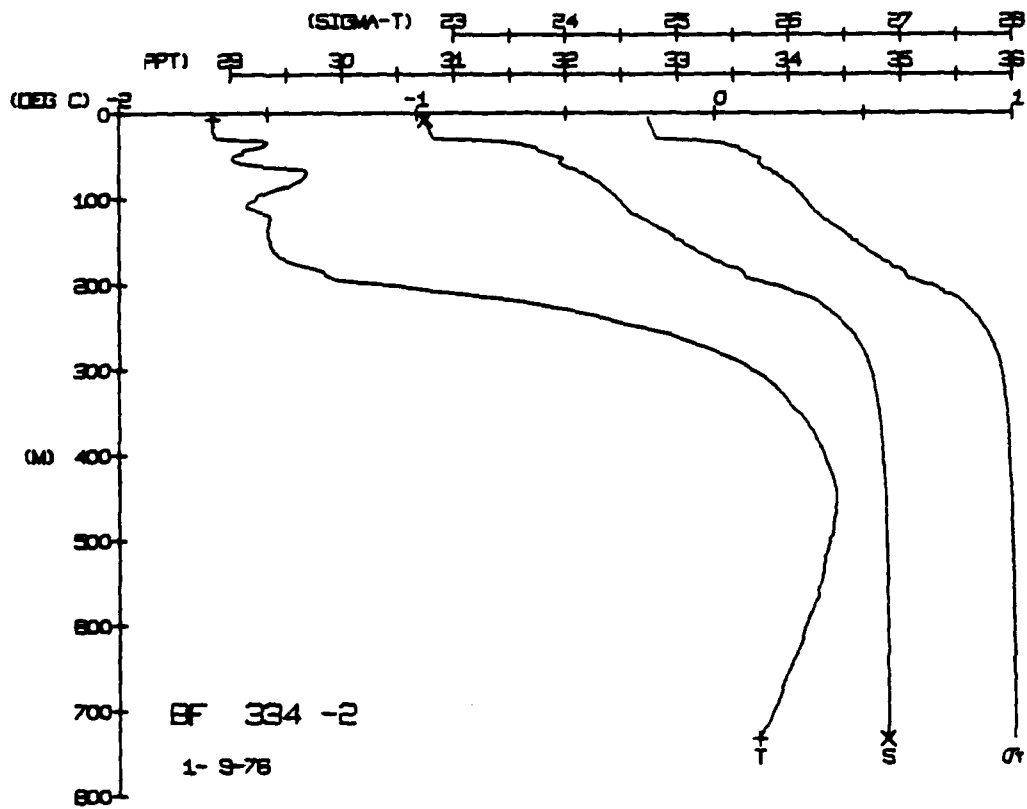






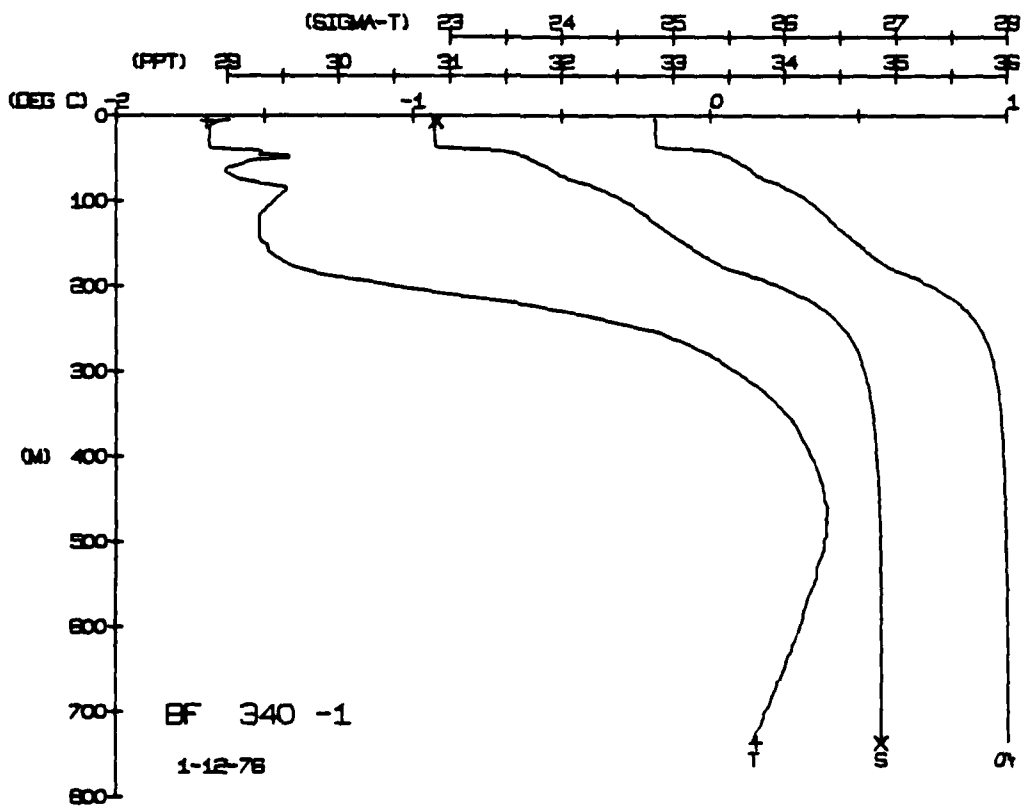
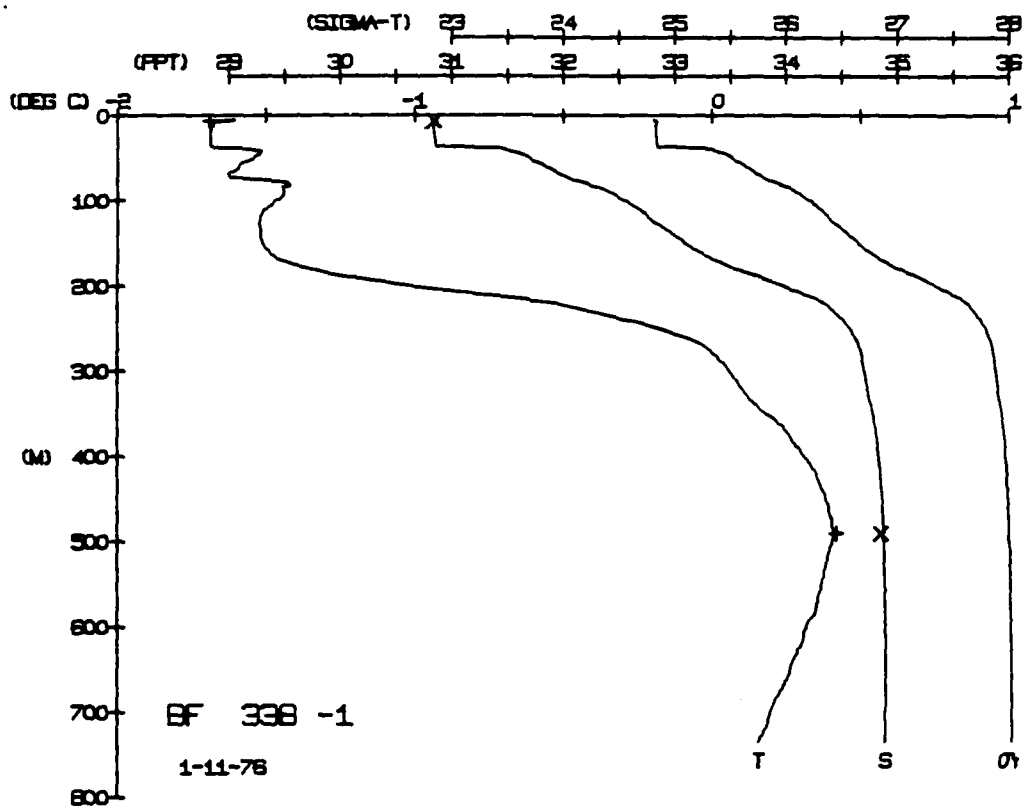




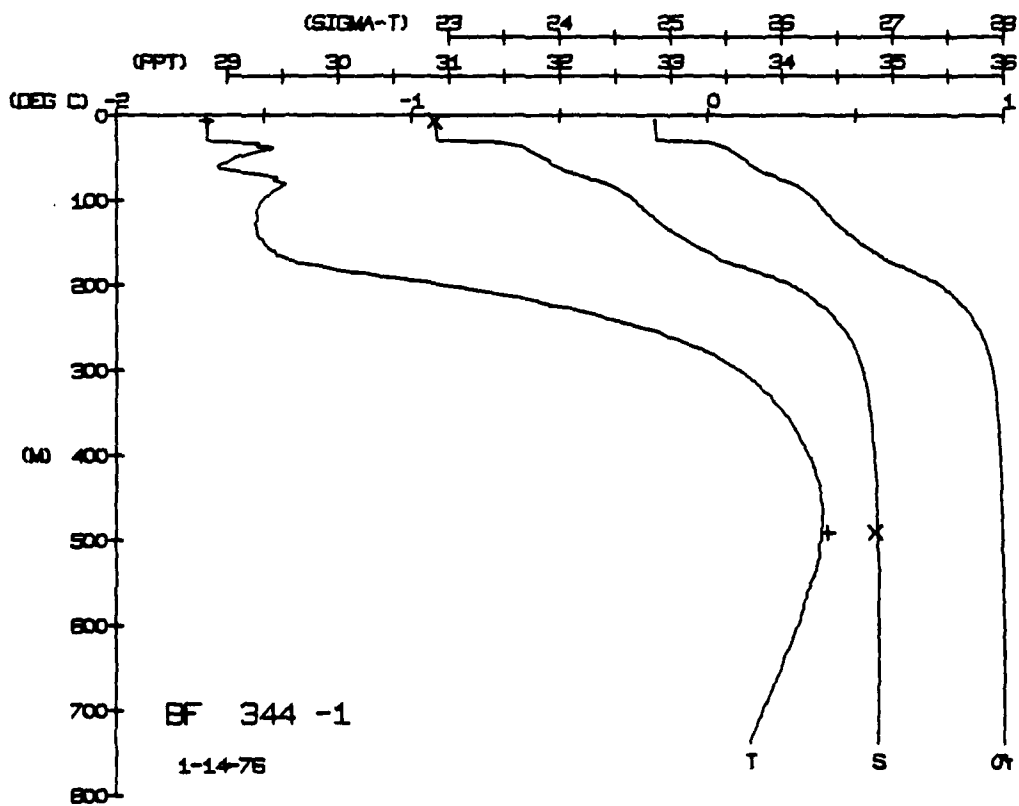
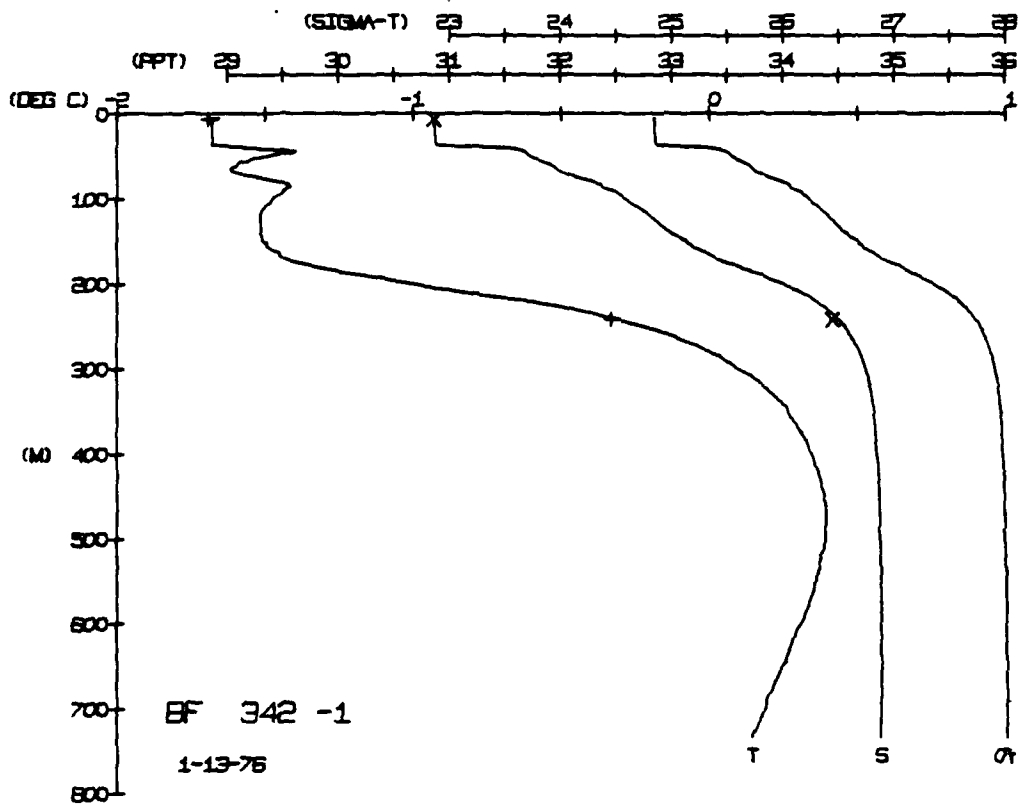




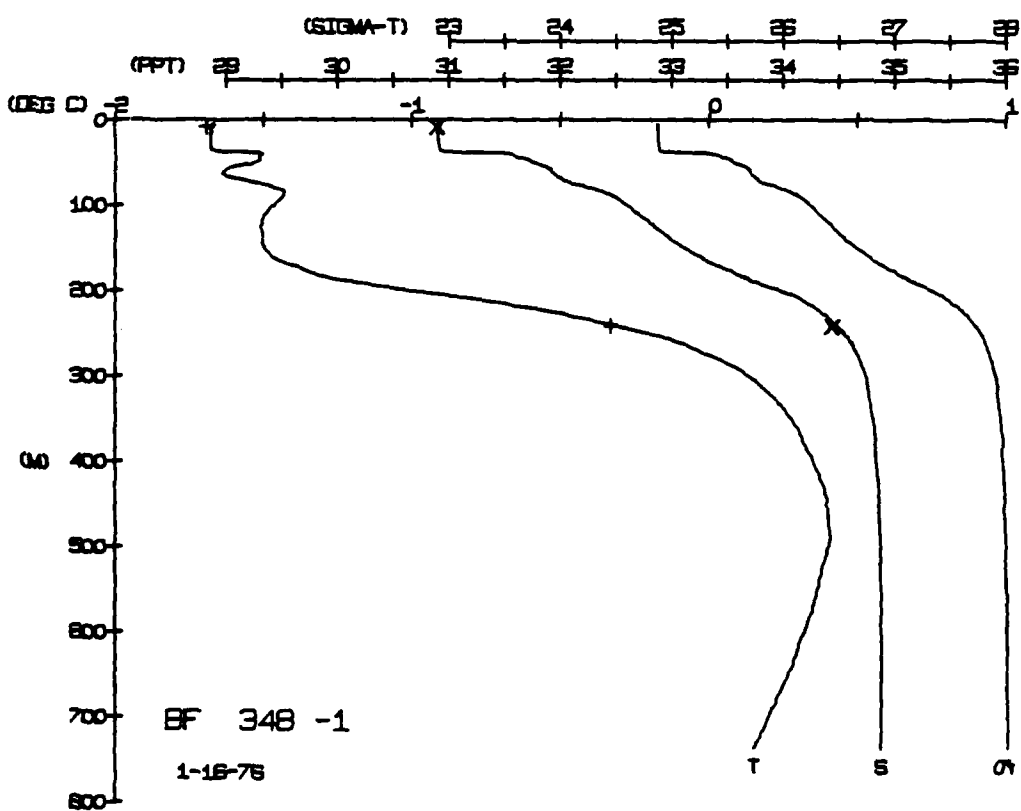
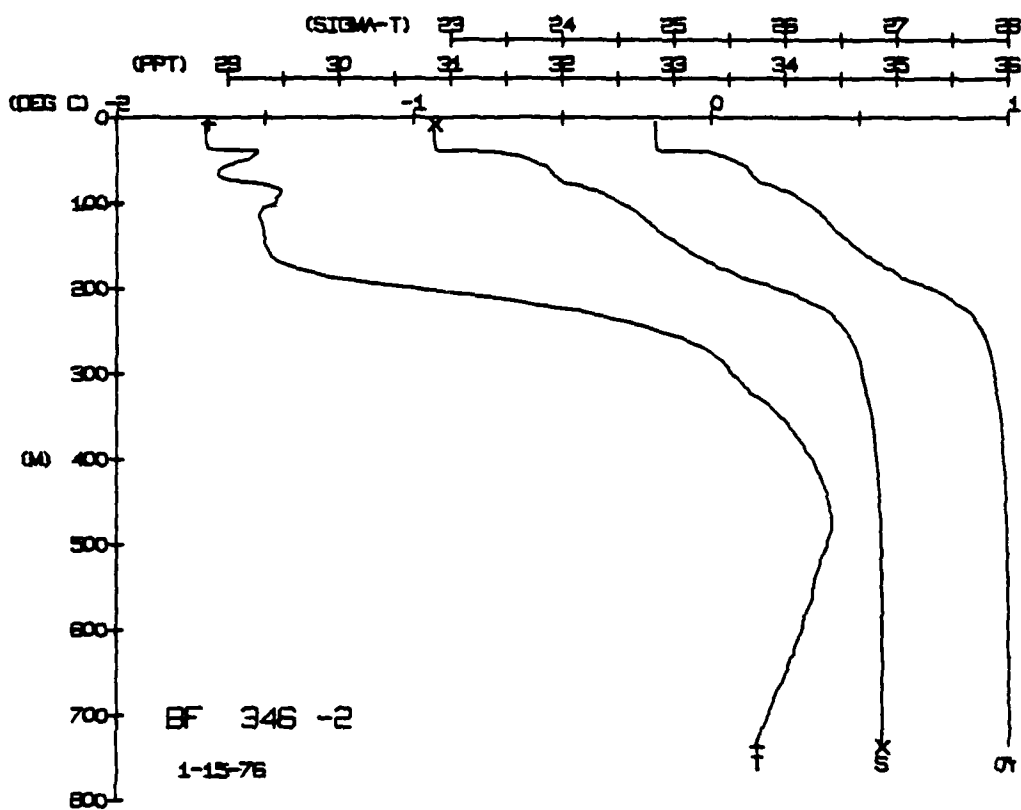




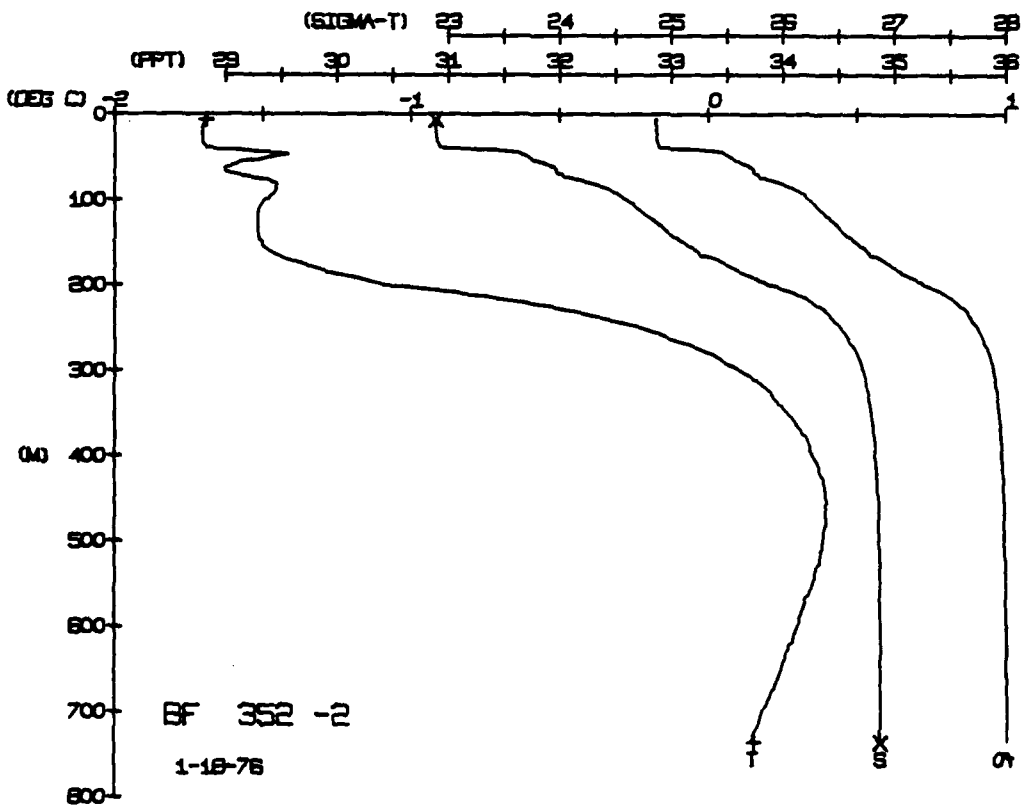
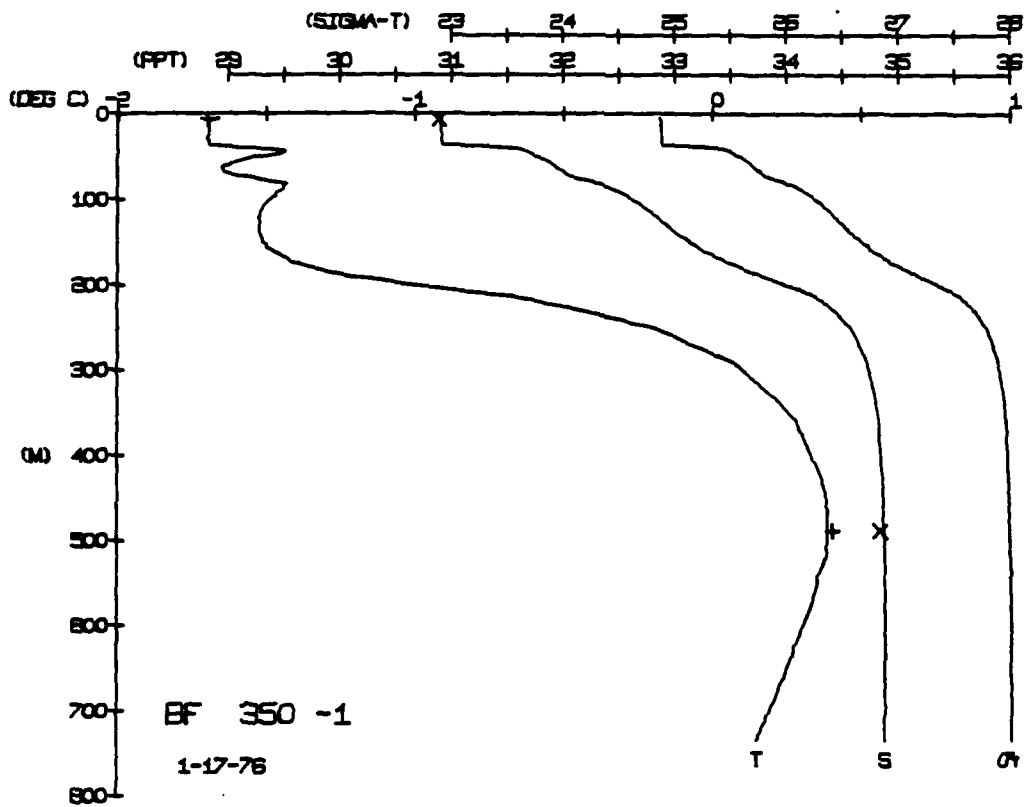










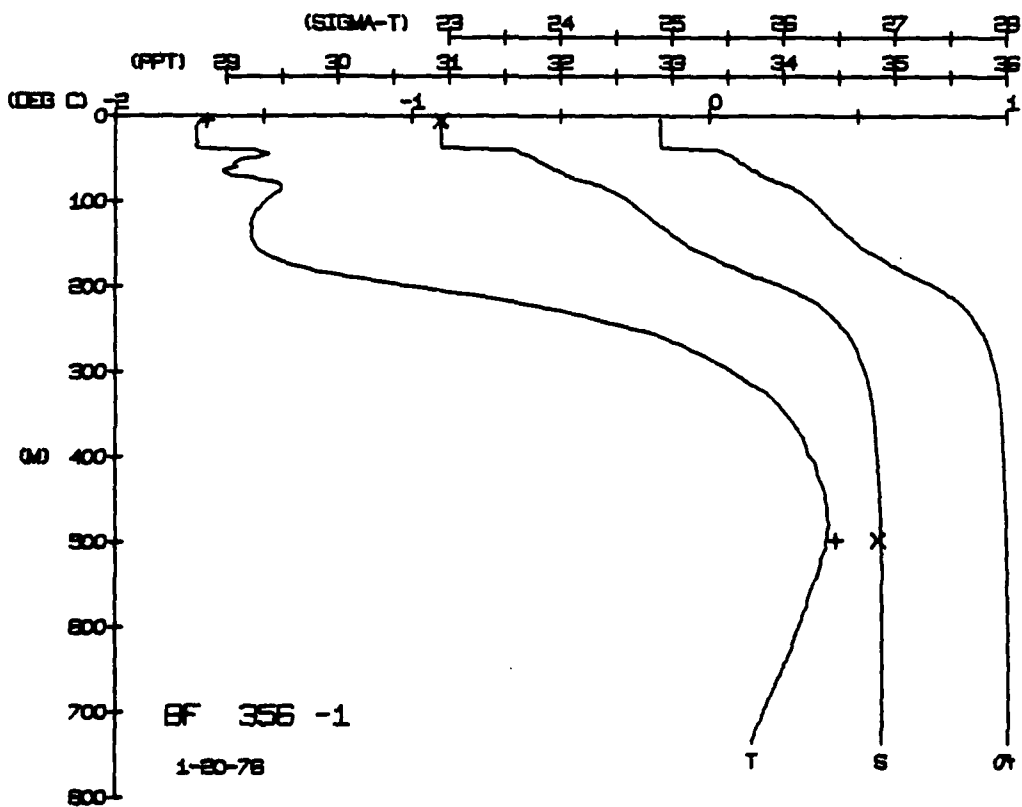
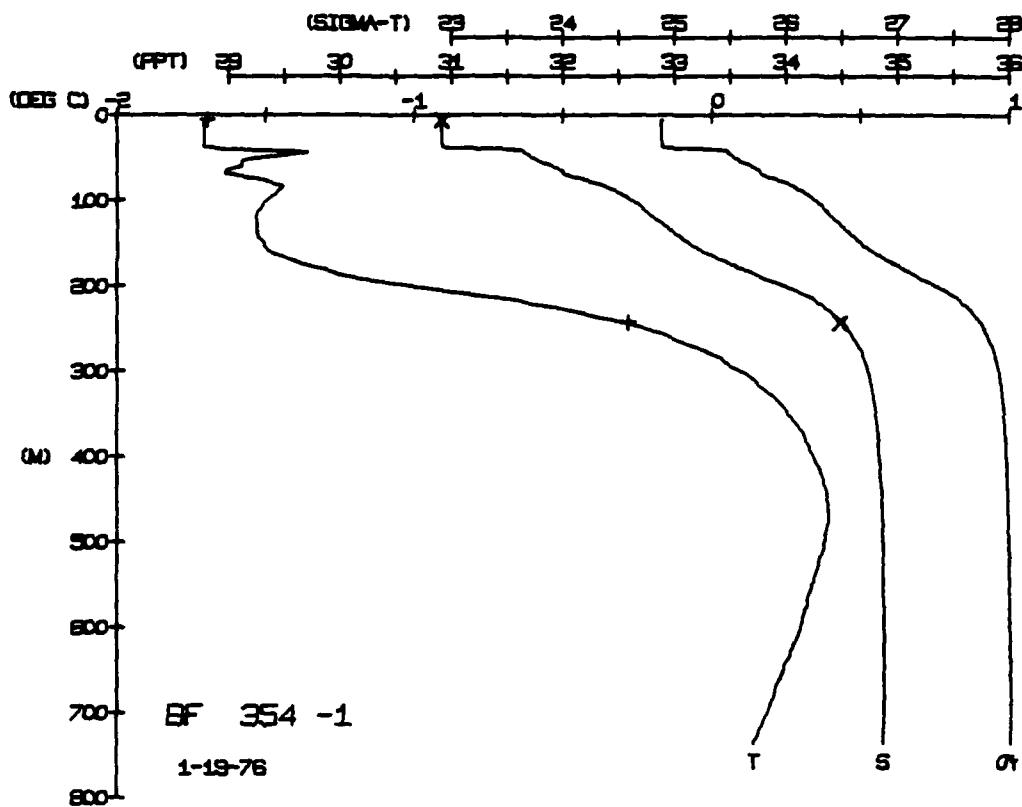




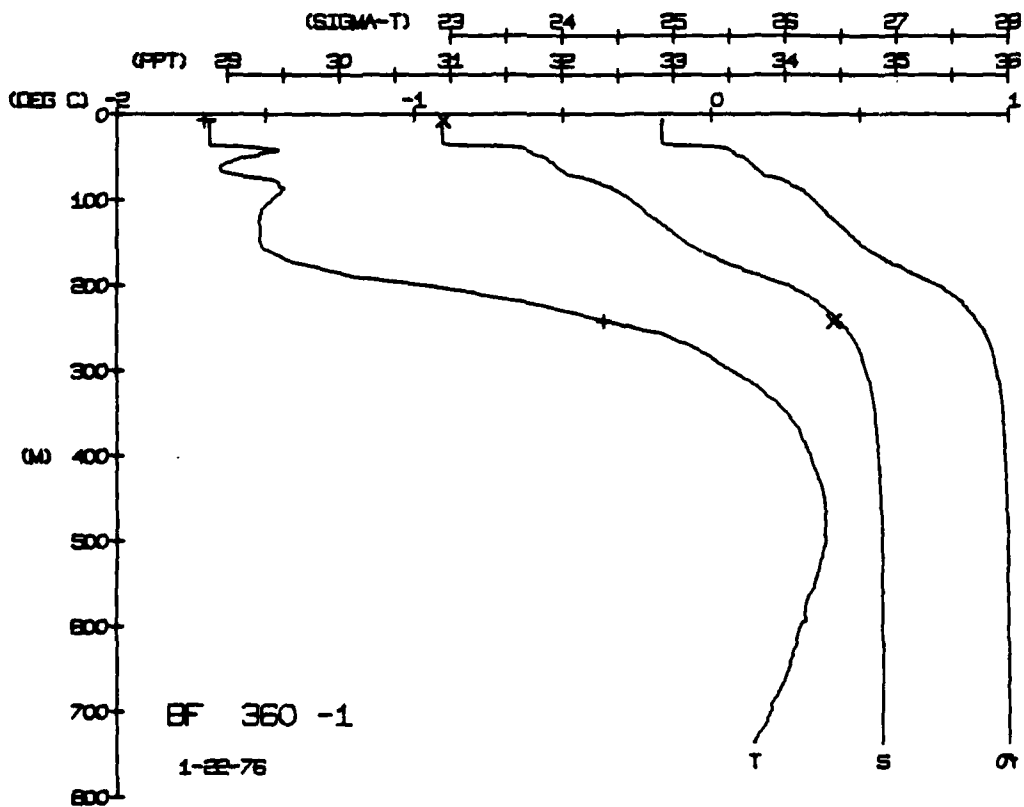
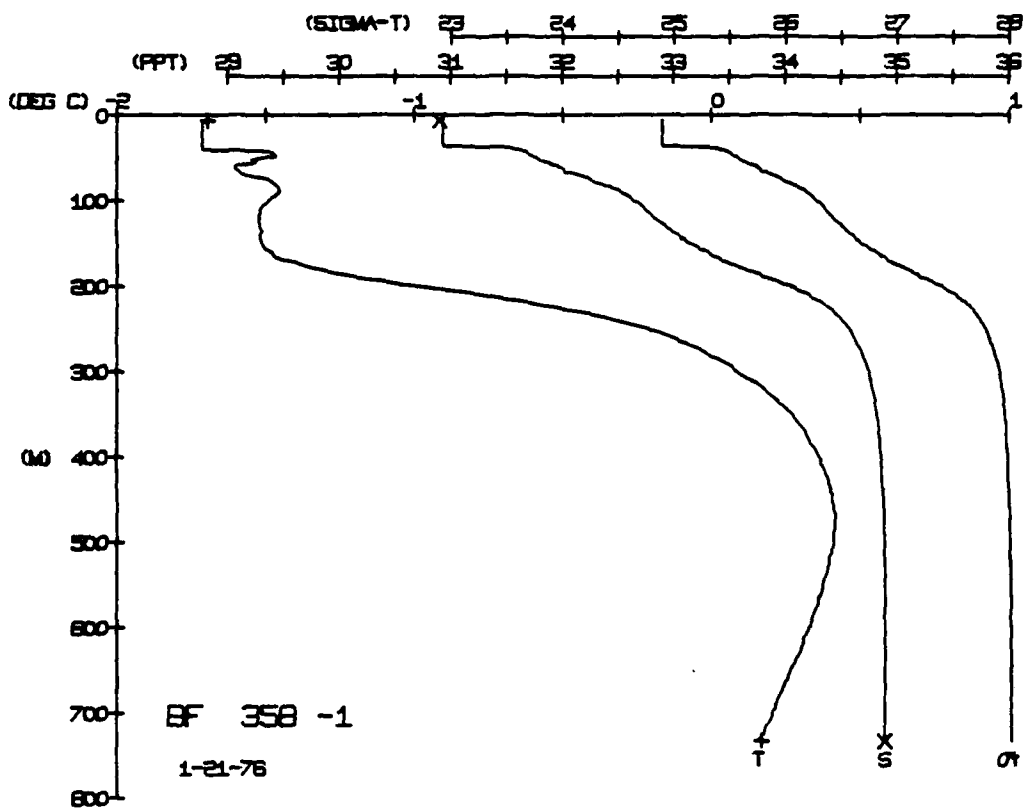
BLUE FOX STATION 356(1) CTD 20/JAN/1976 1800 GMT CODE = 2  
LAT = 72.9459N LNG = 137.0647W LTER = 0, LGER = 0  
AIR TEMP = -35.8 HARUM = 1031.4 WIND = 263.2 SPEED = 54.9

DEPTH	TEMP	PTEMP	SALIN	SIG T	SPVUL	DYHHT	SOUND
0.5	70.0	70.0	30.0	89	307.4	0.0018	435.6
1.0	70.0	70.0	30.0	89	307.4	0.0015	435.5
1.5	70.0	70.0	30.0	89	307.4	0.0013	435.5
2.0	70.0	70.0	30.0	89	307.4	0.0011	435.5
2.5	70.0	70.0	30.0	89	307.4	0.0009	435.5
3.0	70.0	70.0	30.0	89	307.4	0.0007	435.5
3.5	70.0	70.0	30.0	89	307.4	0.0005	435.5
4.0	70.0	70.0	30.0	89	307.4	0.0003	435.5
4.5	70.0	70.0	30.0	89	307.4	0.0001	435.5
5.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
6.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
7.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
8.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
9.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
10.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
11.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
12.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
13.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
14.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
15.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
16.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
17.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
18.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
19.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
20.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
21.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
22.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
23.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
24.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
25.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
26.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
27.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
28.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
29.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
30.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
31.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
32.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
33.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
34.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
35.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
36.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
37.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
38.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
39.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
40.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
41.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
42.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
43.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
44.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
45.0	70.0	70.0	30.0	89	307.4	0.0000	435.5
46.0	70.0	70.0	30				

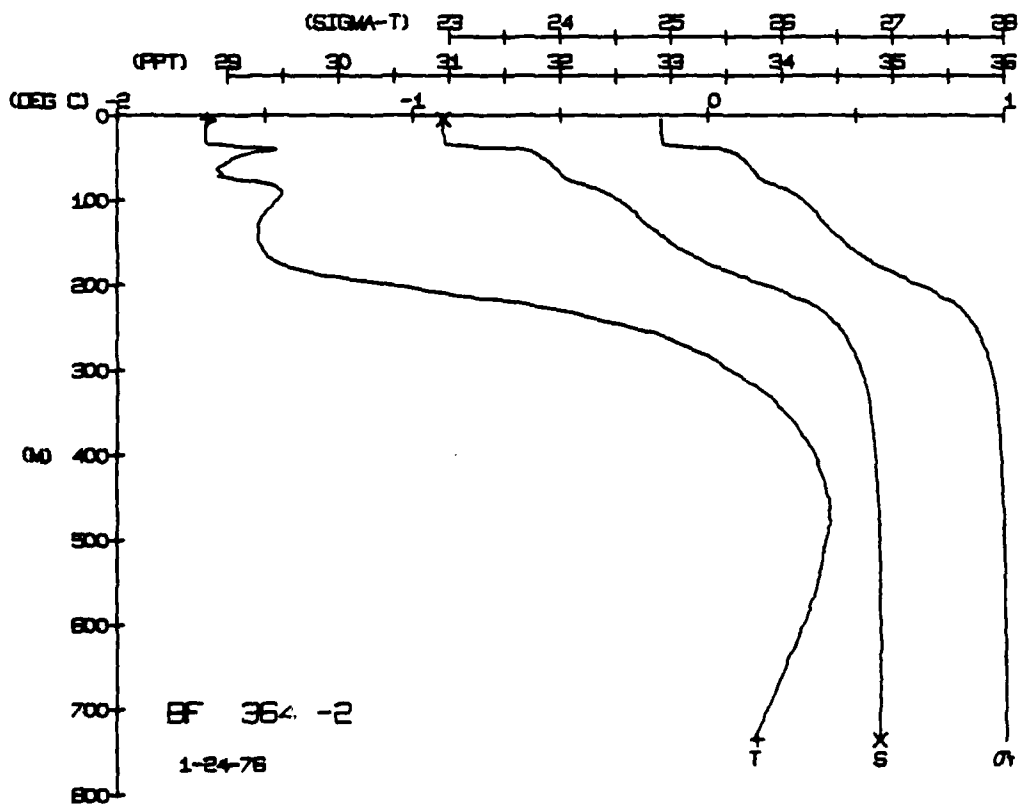
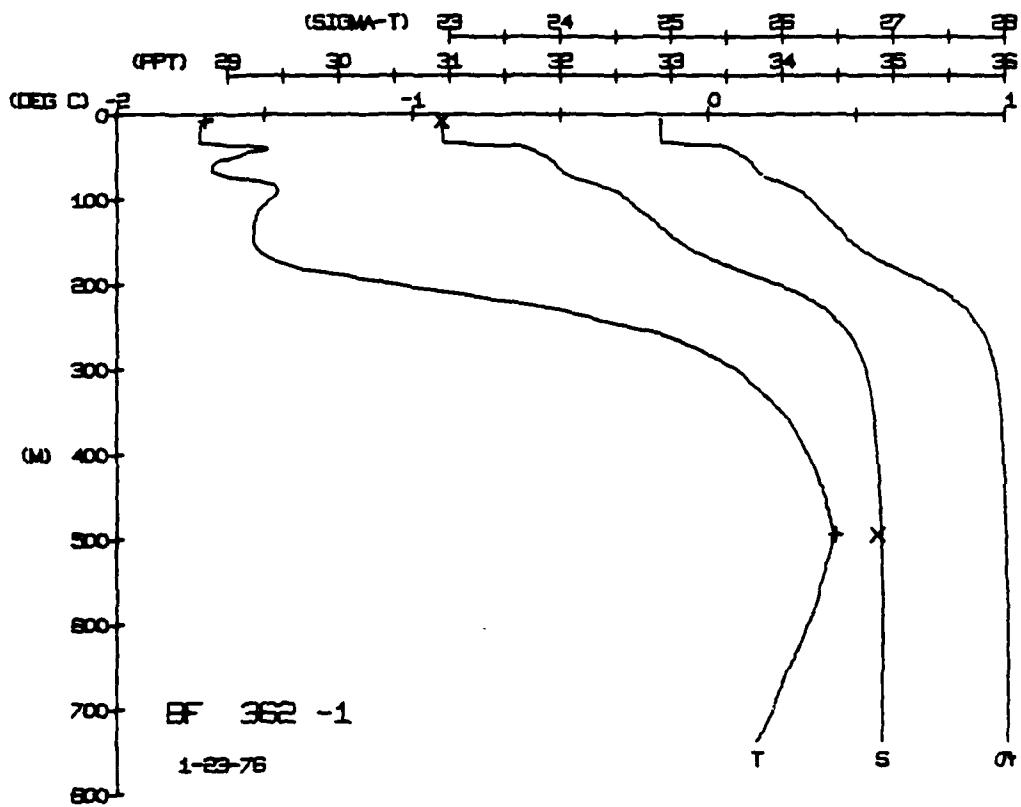
DEPTH	TEMP	PTEMP	SALIN	SIG T	SPVUL	DYNHT	SOUND
0.5	68.82	68.82	30.92	89	4	000	35.77
1.0	68.82	68.82	30.92	89	307	000	35.77
1.5	68.82	68.82	30.92	89	307	000	35.77
2.0	68.82	68.82	30.92	89	307	000	35.77
2.5	68.82	68.82	30.92	89	307	000	35.77
3.0	68.82	68.82	30.92	89	307	000	35.77
3.5	68.82	68.82	30.92	89	307	000	35.77
4.0	68.82	68.82	30.92	89	307	000	35.77
4.5	68.82	68.82	30.92	89	307	000	35.77
5.0	68.82	68.82	30.92	89	307	000	35.77
5.5	68.82	68.82	30.92	89	307	000	35.77
6.0	68.82	68.82	30.92	89	307	000	35.77
6.5	68.82	68.82	30.92	89	307	000	35.77
7.0	68.82	68.82	30.92	89	307	000	35.77
7.5	68.82	68.82	30.92	89	307	000	35.77
8.0	68.82	68.82	30.92	89	307	000	35.77
8.5	68.82	68.82	30.92	89	307	000	35.77
9.0	68.82	68.82	30.92	89	307	000	35.77
9.5	68.82	68.82	30.92	89	307	000	35.77
10.0	68.82	68.82	30.92	89	307	000	35.77
10.5	68.82	68.82	30.92	89	307	000	35.77
11.0	68.82	68.82	30.92	89	307	000	35.77
11.5	68.82	68.82	30.92	89	307	000	35.77
12.0	68.82	68.82	30.92	89	307	000	35.77
12.5	68.82	68.82	30.92	89	307	000	35.77
13.0	68.82	68.82	30.92	89	307	000	35.77
13.5	68.82	68.82	30.92	89	307	000	35.77
14.0	68.82	68.82	30.92	89	307	000	35.77
14.5	68.82	68.82	30.92	89	307	000	35.77
15.0	68.82	68.82	30.92	89	307	000	35.77
15.5	68.82	68.82	30.92	89	307	000	35.77
16.0	68.82	68.82	30.92	89	307	000	35.77
16.5	68.82	68.82	30.92	89	307	000	35.77
17.0	68.82	68.82	30.92	89	307	000	35.77
17.5	68.82	68.82	30.92	89	307	000	35.77
18.0	68.82	68.82	30.92	89	307	000	35.77
18.5	68.82	68.82	30.92	89	307	000	35.77
19.0	68.82	68.82	30.92	89	307	000	35.77
19.5	68.82	68.82	30.92	89	307	000	35.77
20.0	68.82	68.82	30.92	89	307	000	35.77
20.5	68.82	68.82	30.92	89	307	000	35.77
21.0	68.82	68.82	30.92	89	307	000	35.77
21.5	68.82	68.82	30.92	89	307	000	35.77
22.0	68.82	68.82	30.92	89	307	000	35.77
22.5	68.82	68.82	30.92	89	307	000	35.77
23.0	68.82	68.82	30.92	89	307	000	35.77
23.5	68.82	68.82	30.92	89	307	000	35.77
24.0	68.82	68.82	30.92	89	307	000	35.77
24.5	68.82	68.82	30.92	89	307	000	35.77
25.0	68.82	68.82	30.92	89	307	000	35.77
25.5	68.82	68.82	30.92	89	307	000	35.77
26.0	68.82	68.82	30.92	89	307	000	



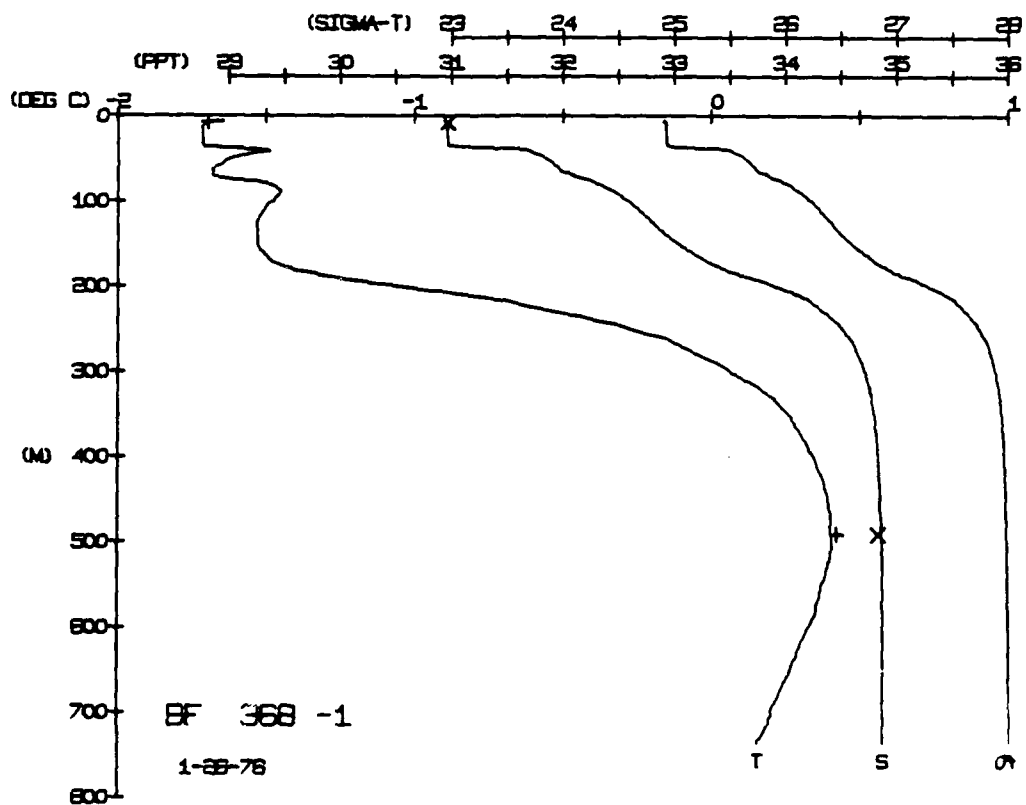
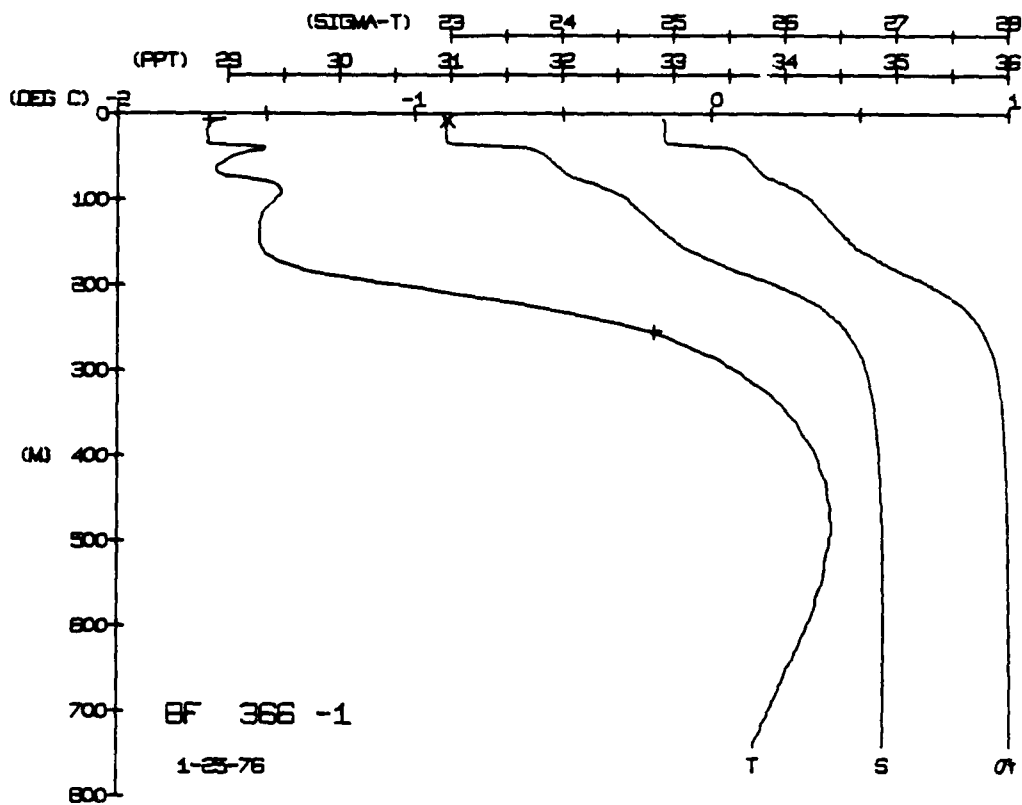














AD-A118 203

LAMONT-DOHERTY GEOLOGICAL OBSERVATORY PALISADES NY

F/6 8/10

ARCTIC ICE DYNAMICS JOINT EXPERIMENT 1975-1976. PHYSICAL OCEANO--ETC(U)

FEB 80 E BAUER, K HUNKINS, T O MANLEY

N00014-76-C-0004

UNCLASSIFIED

LD60-CU-9-80

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END

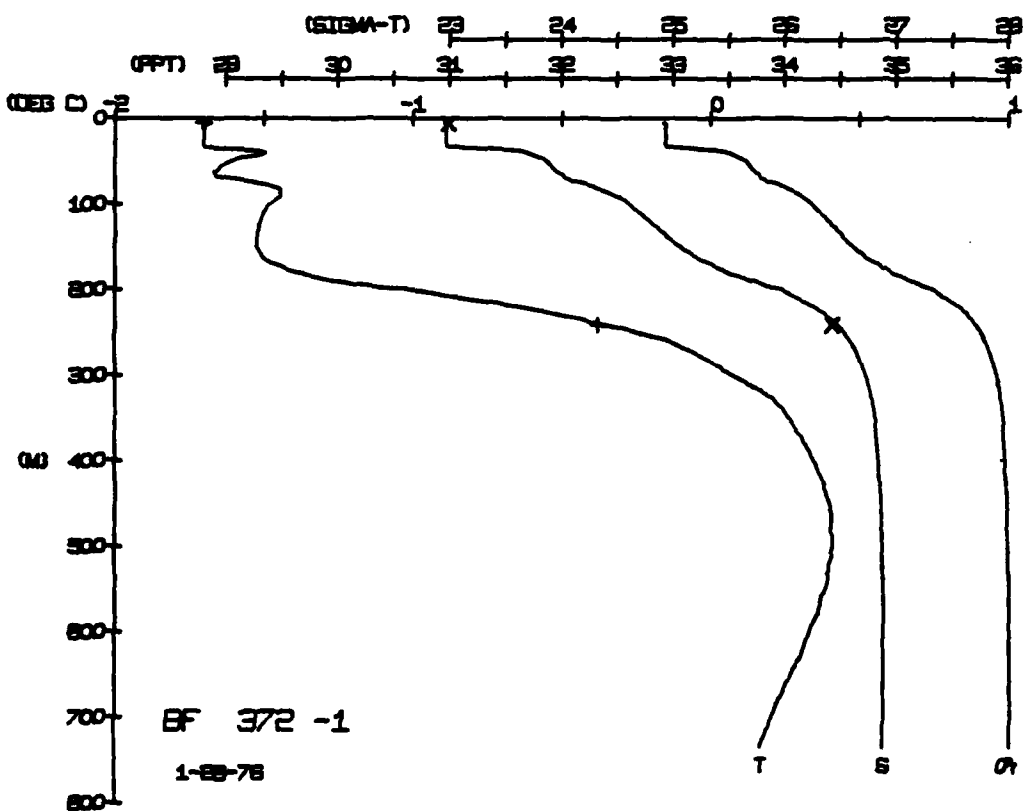
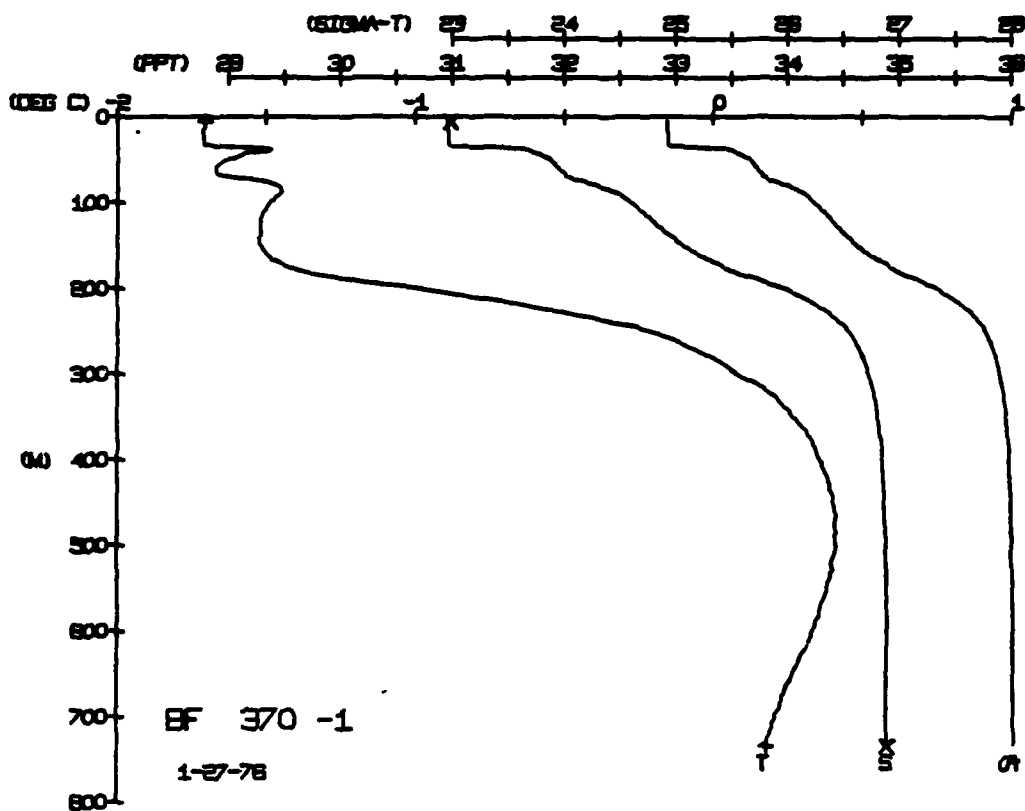
DATE

FILED

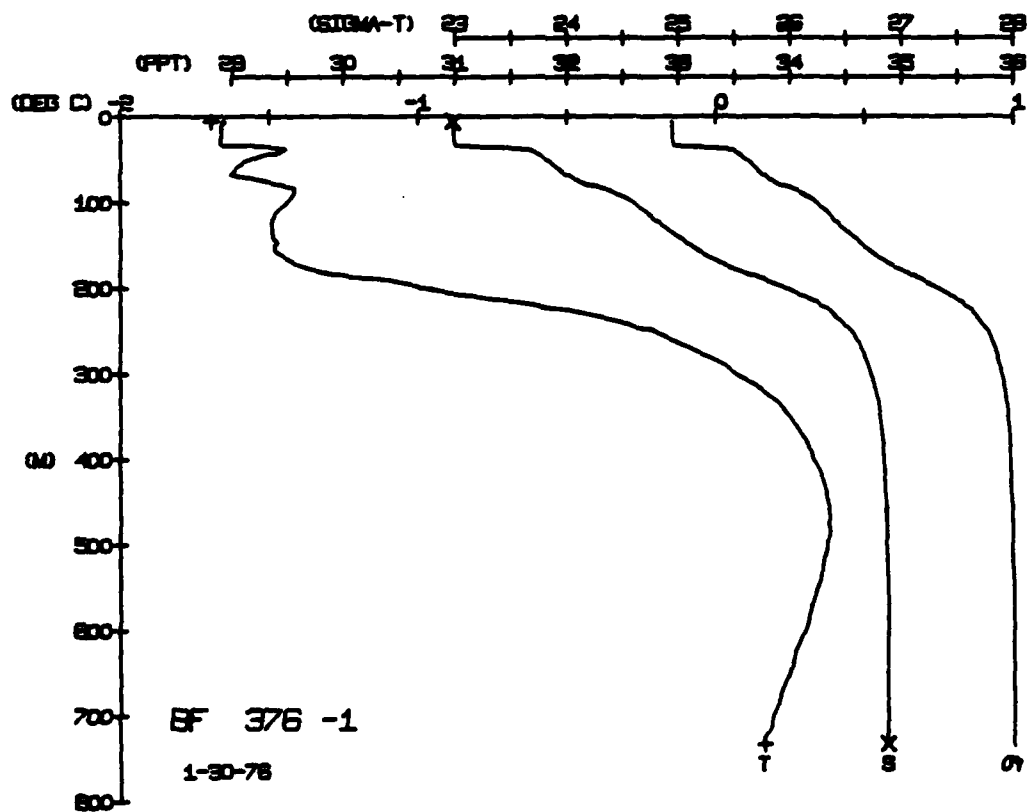
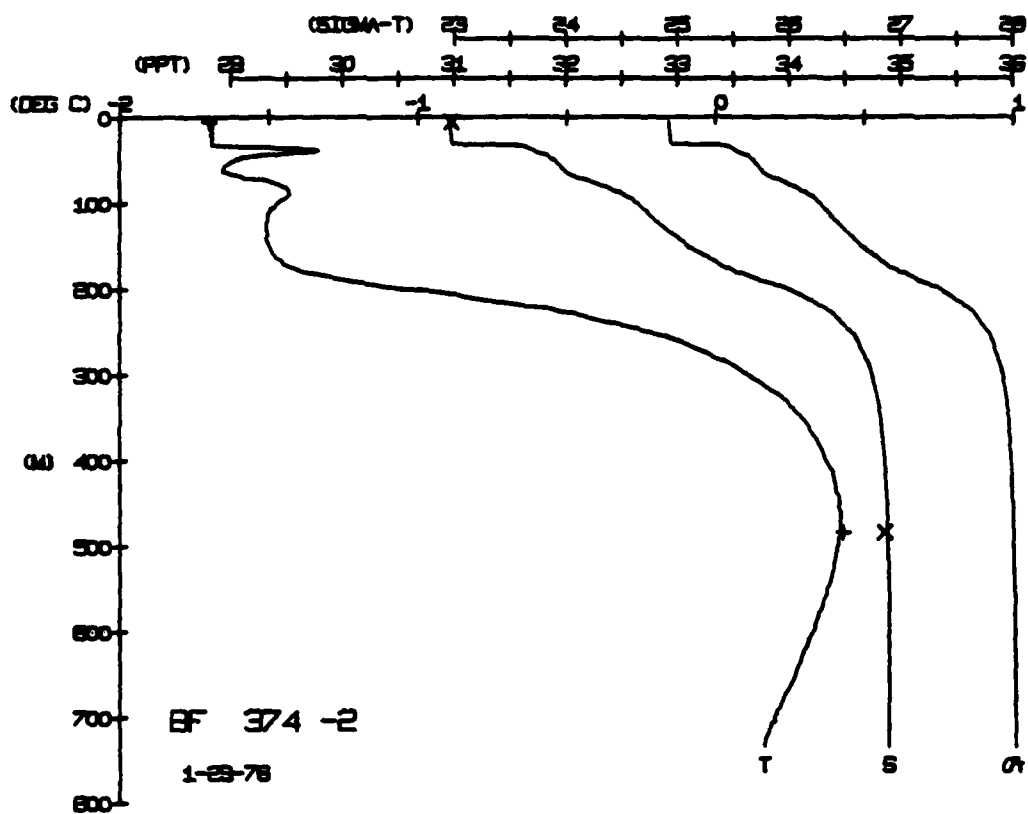
09:82

DTIC

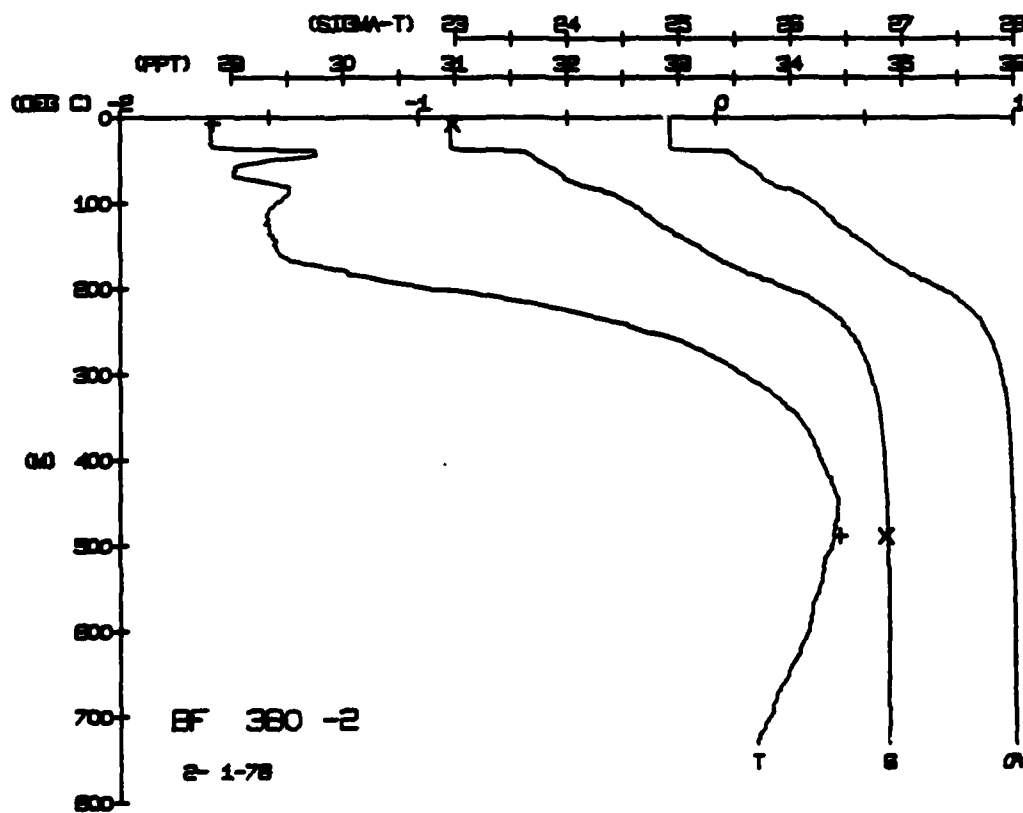
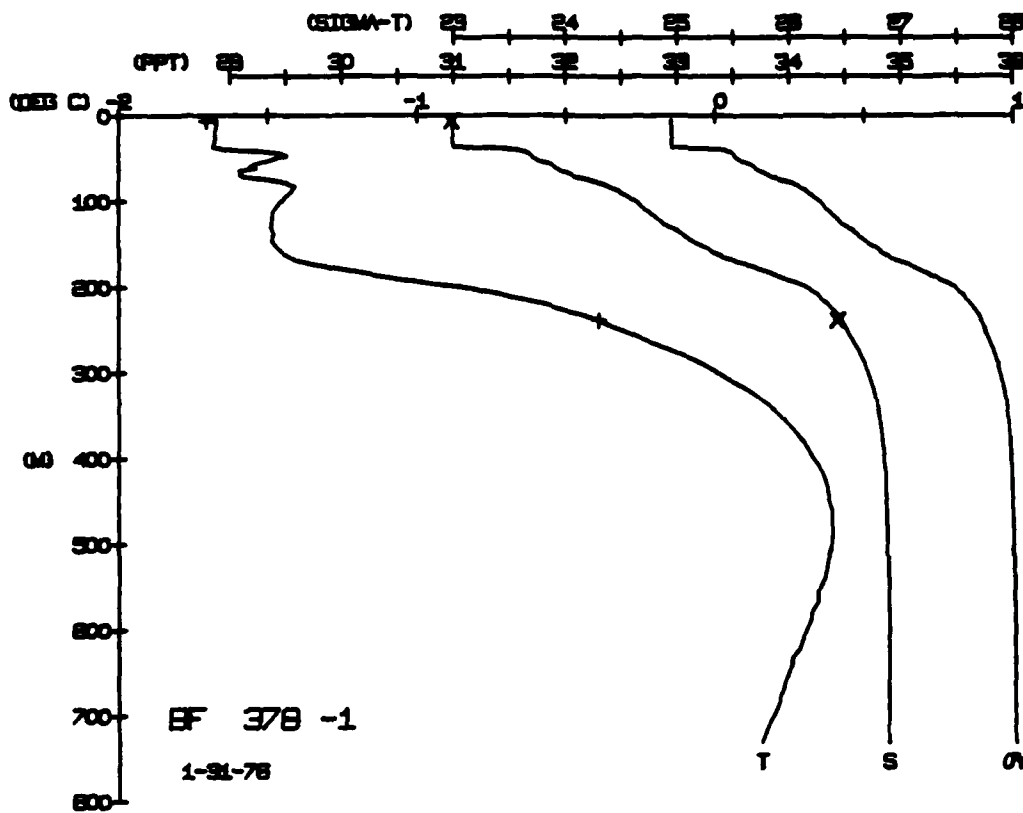






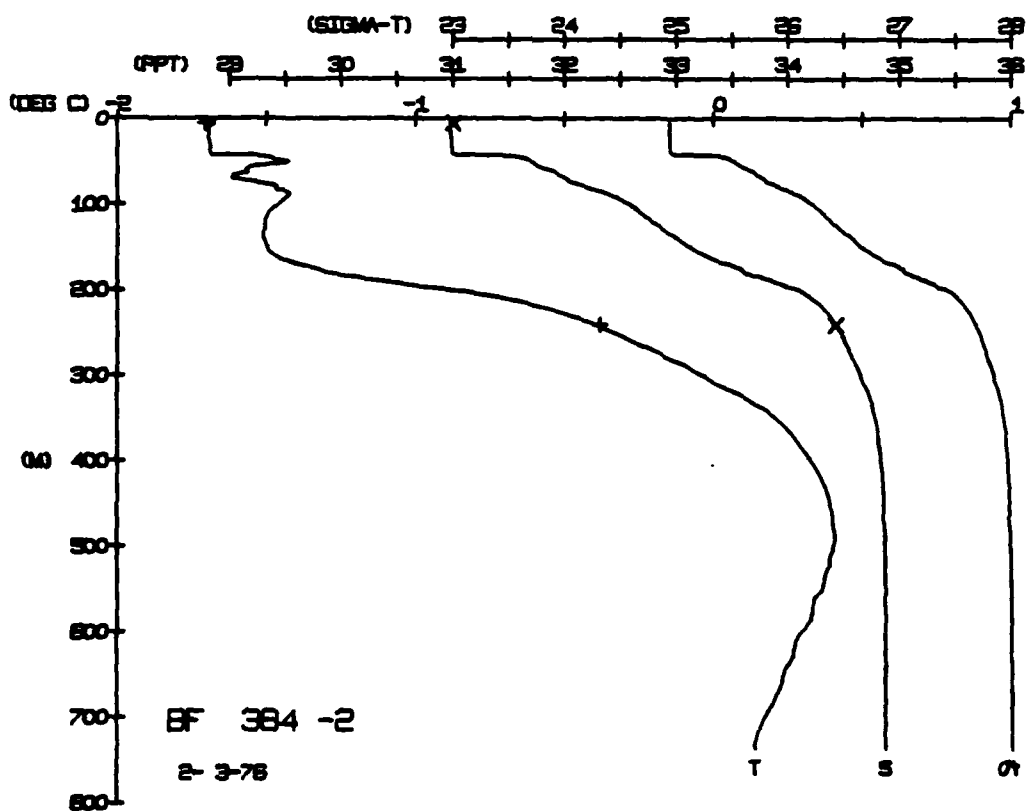
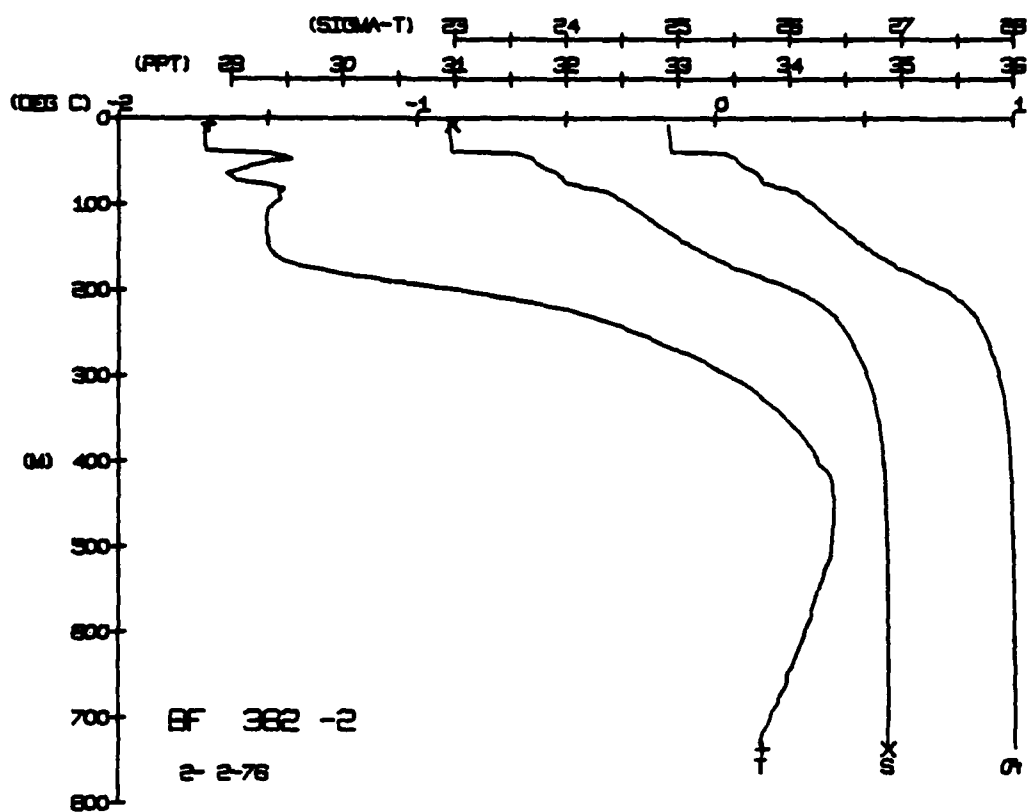




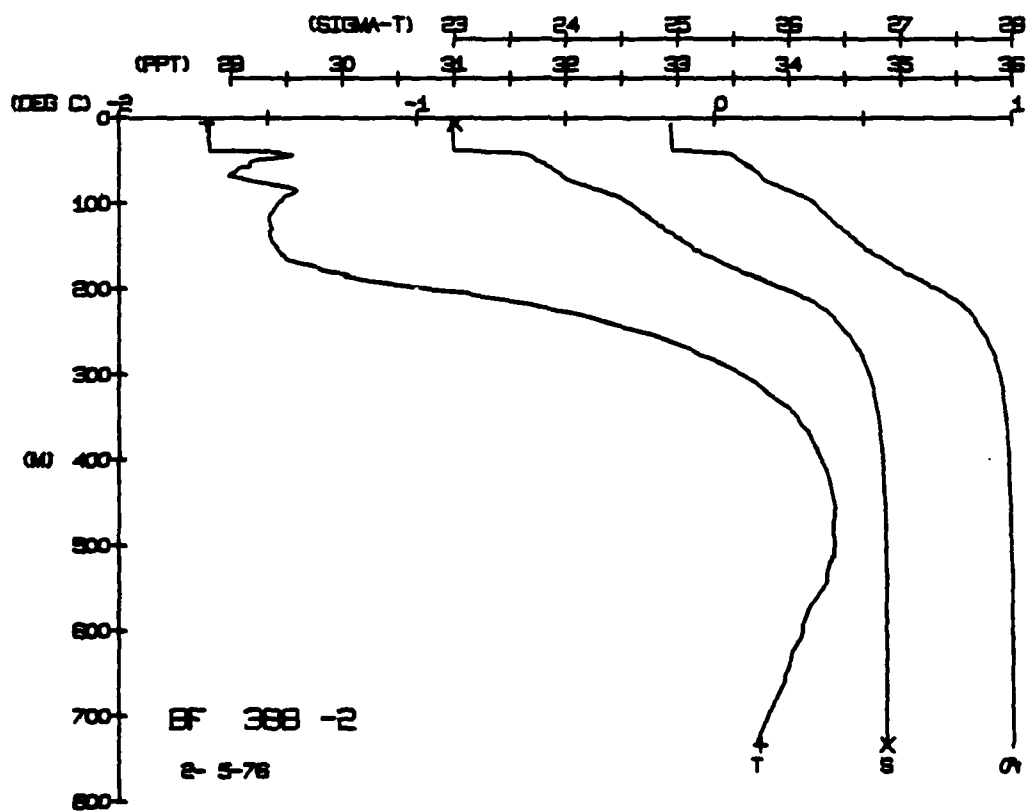
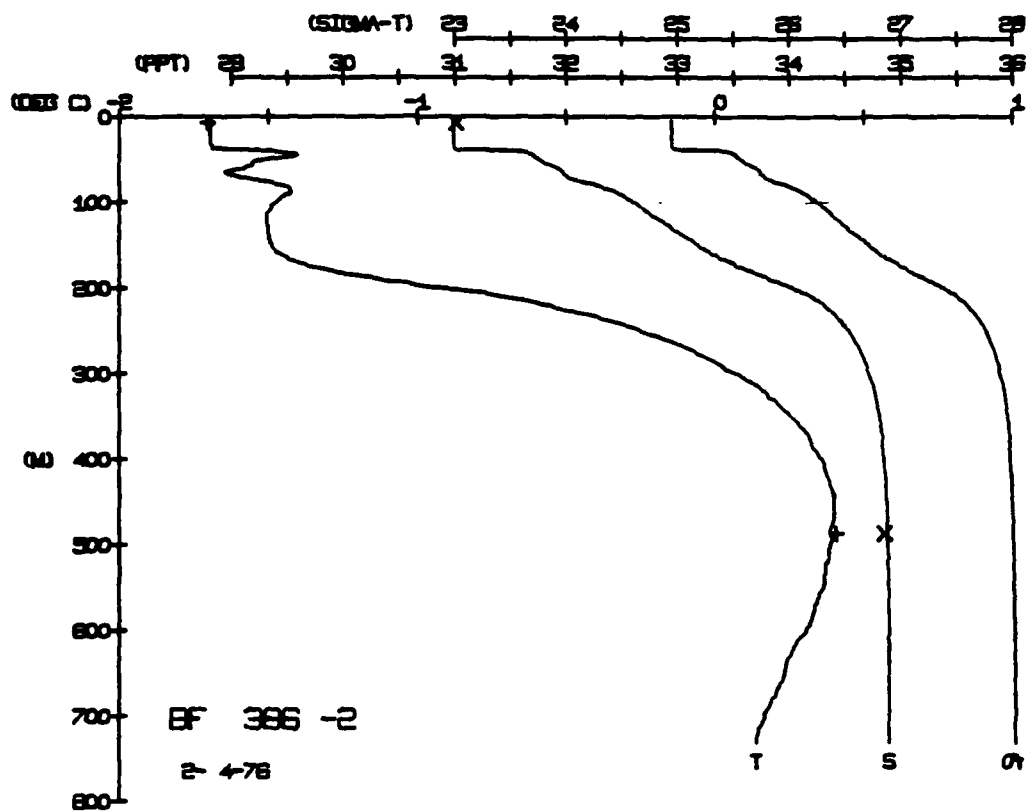




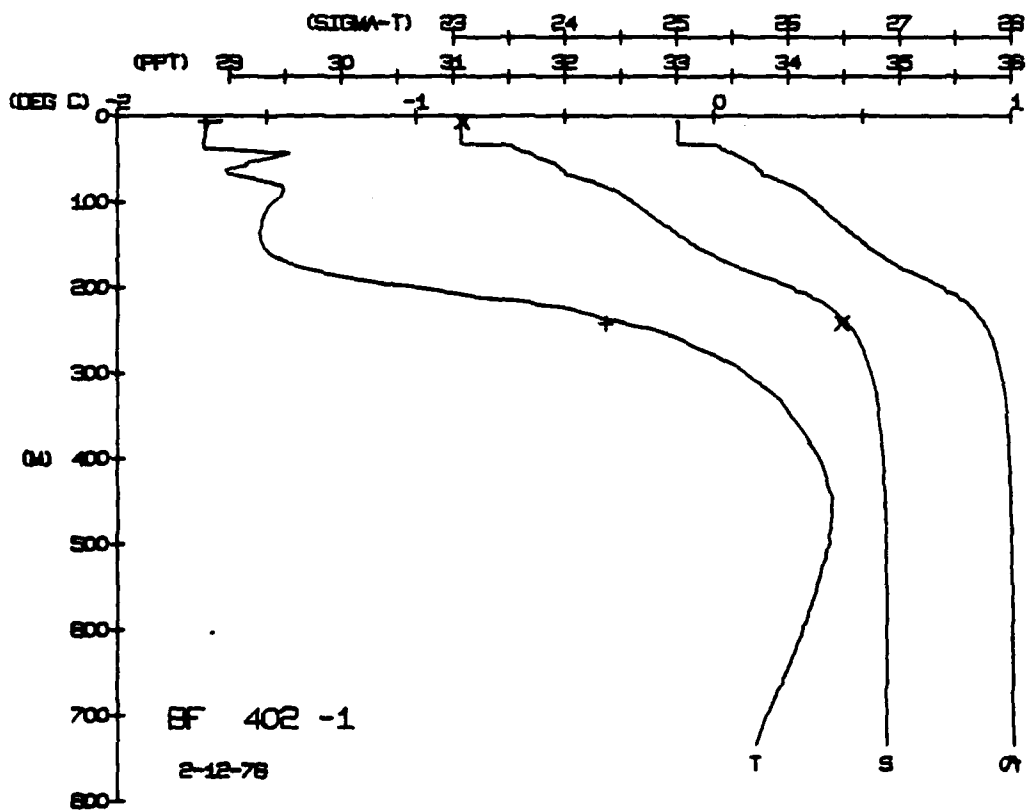
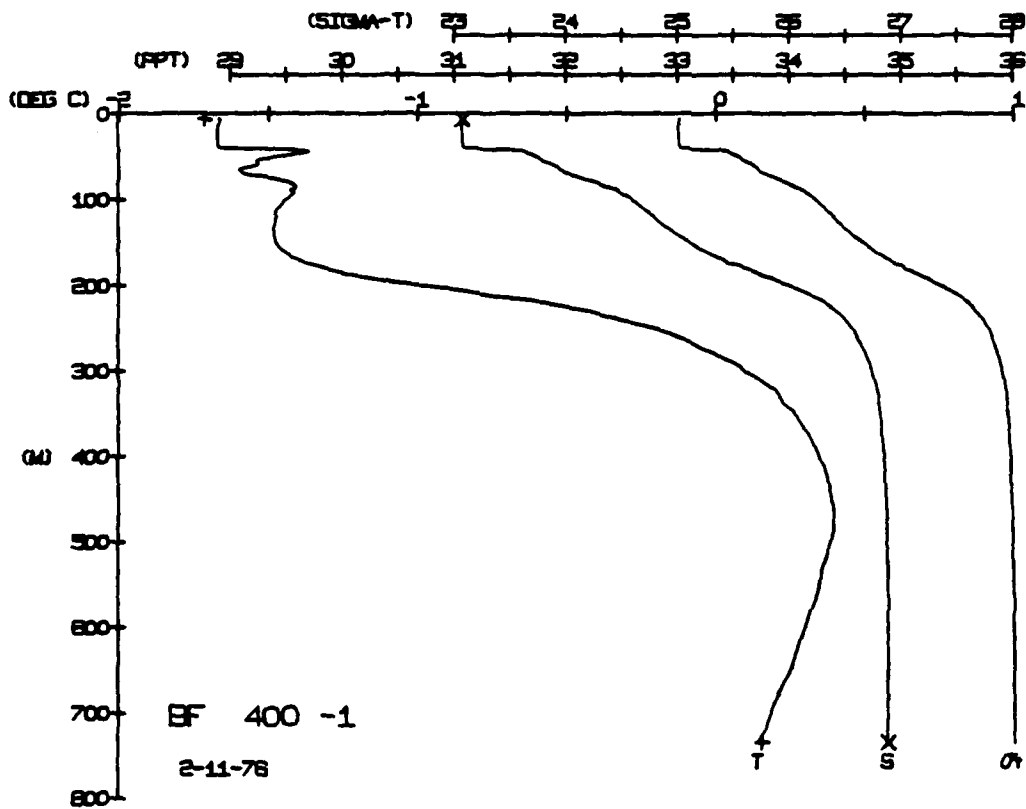




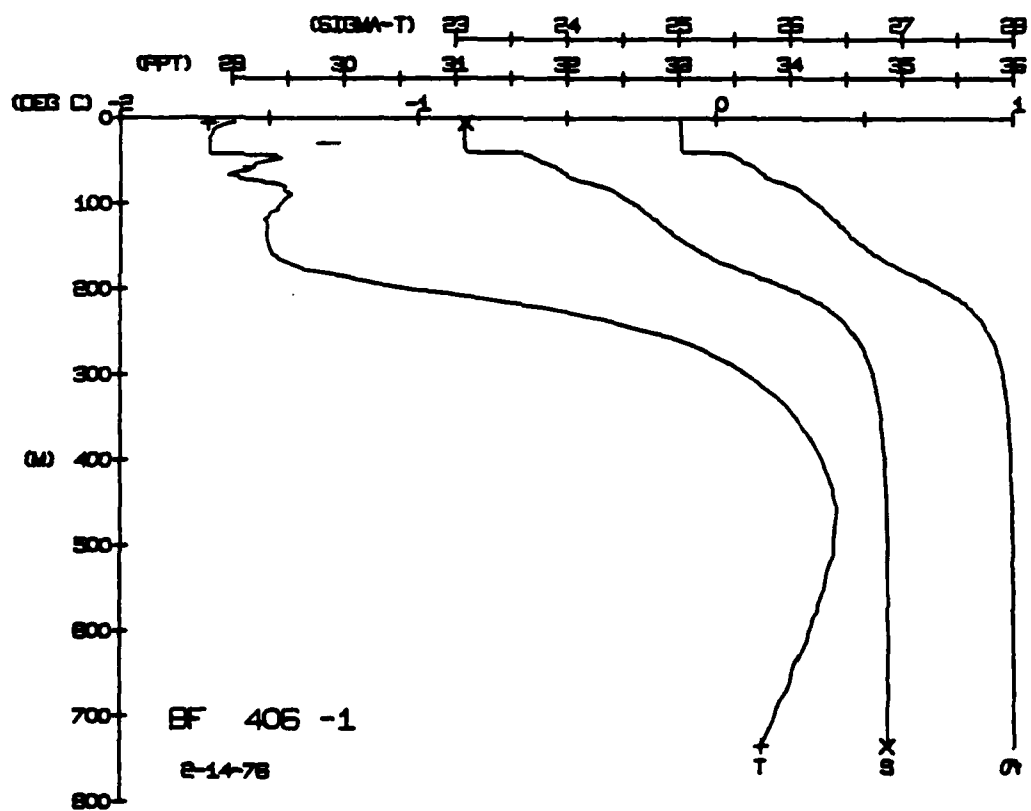
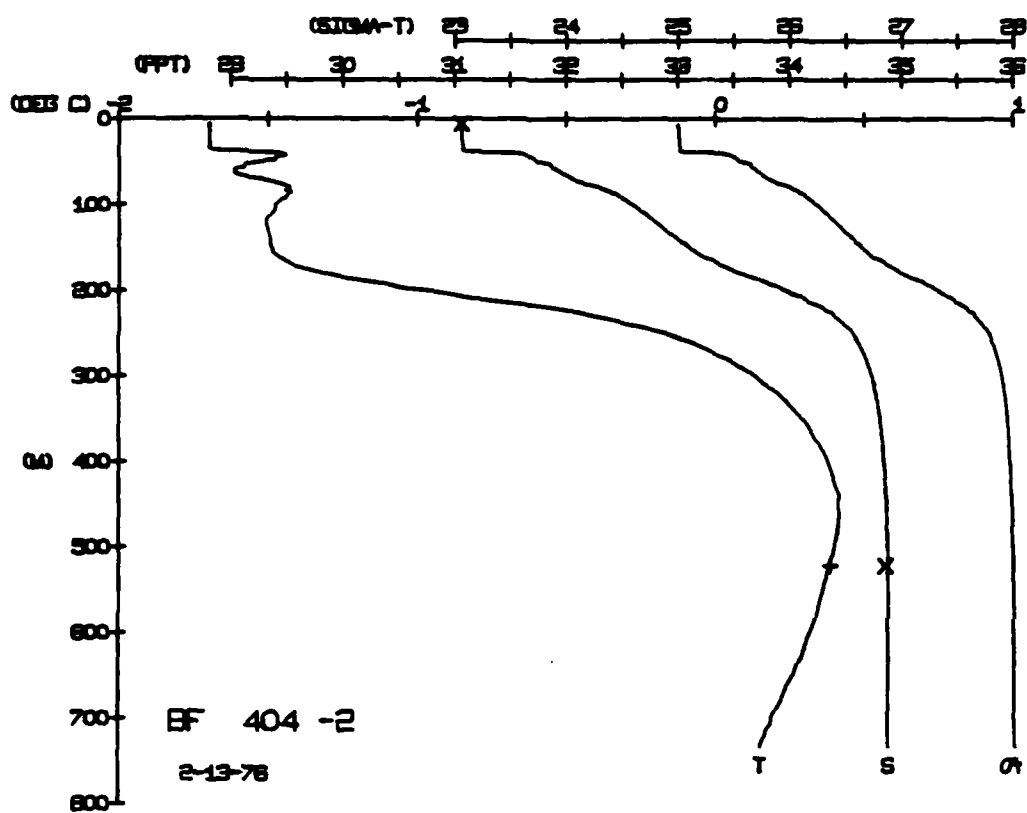






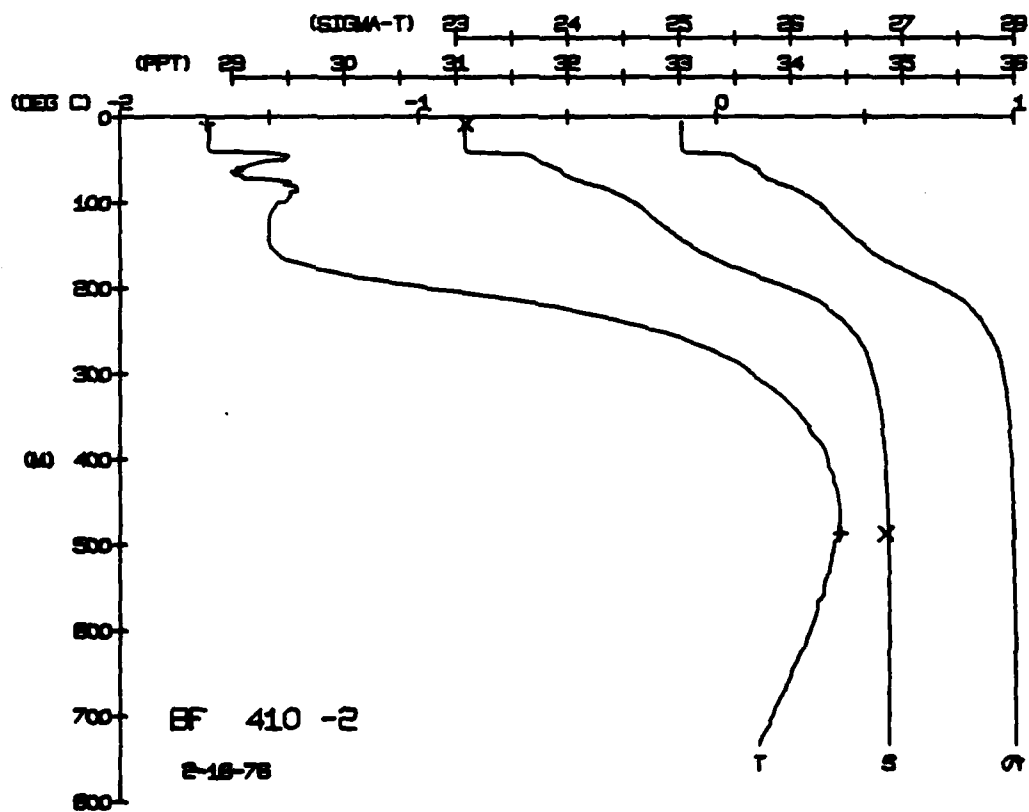
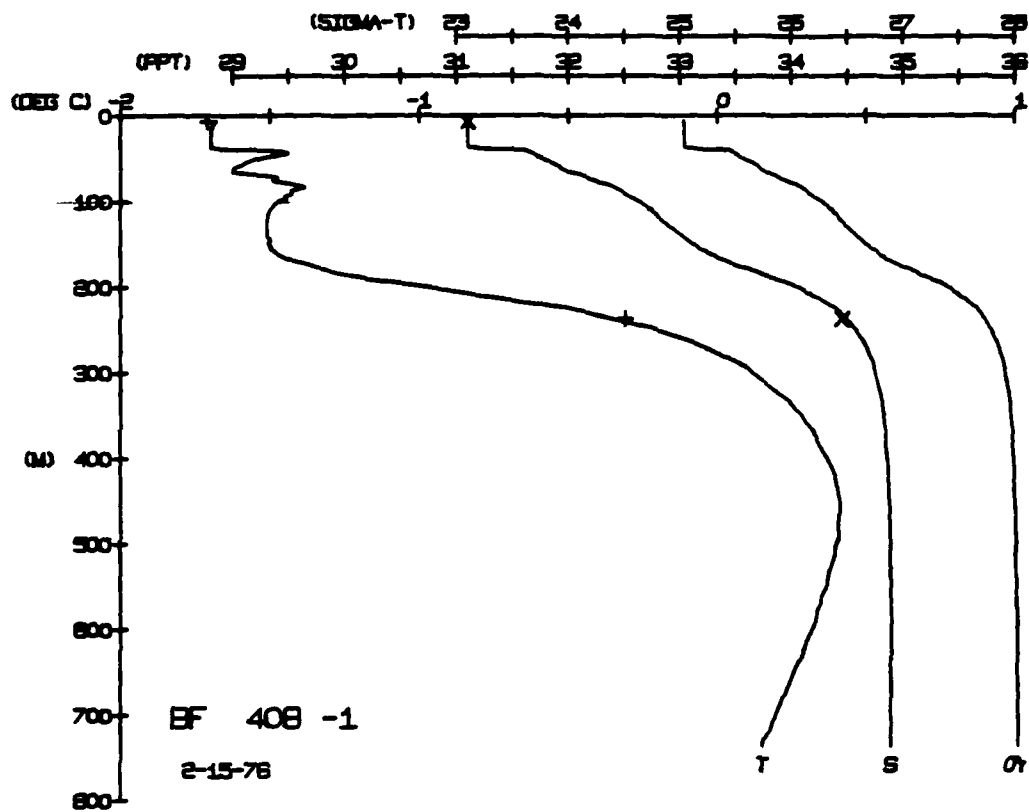




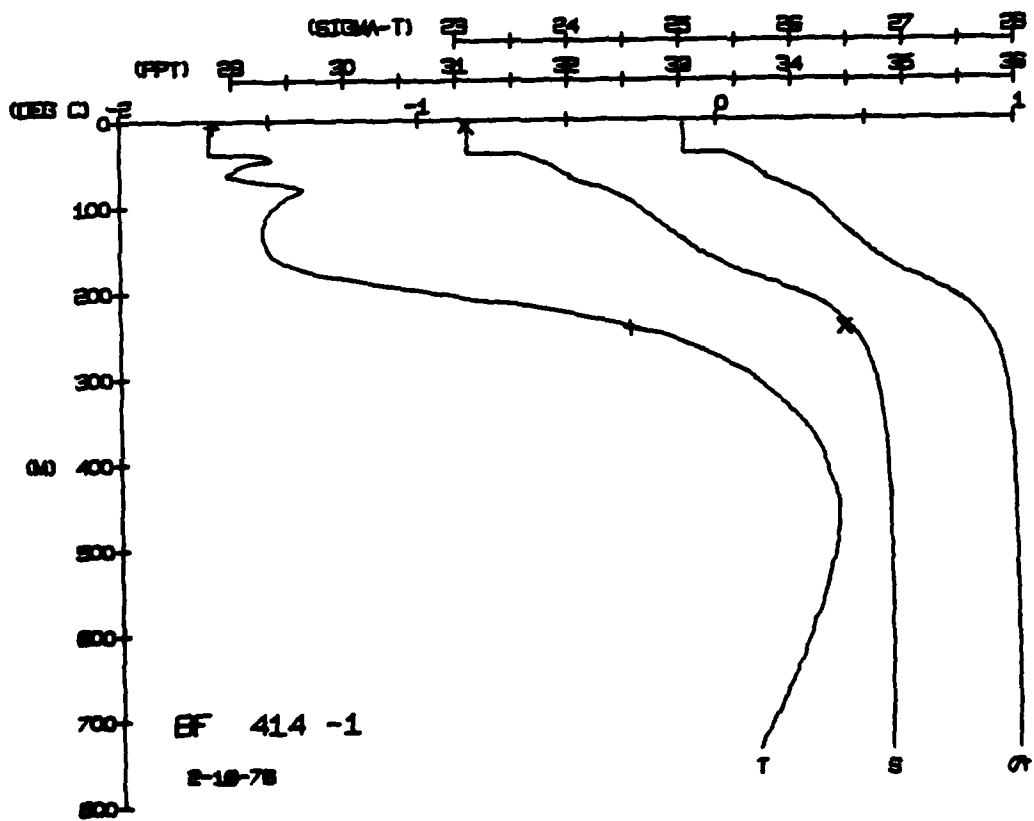
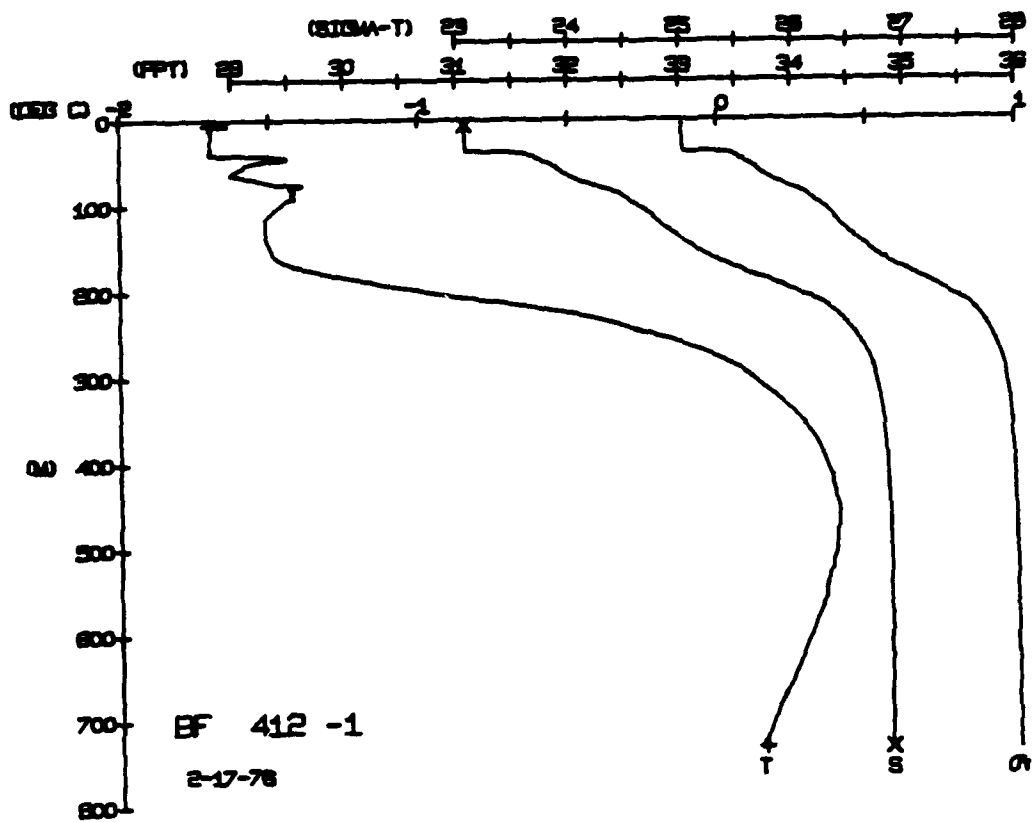




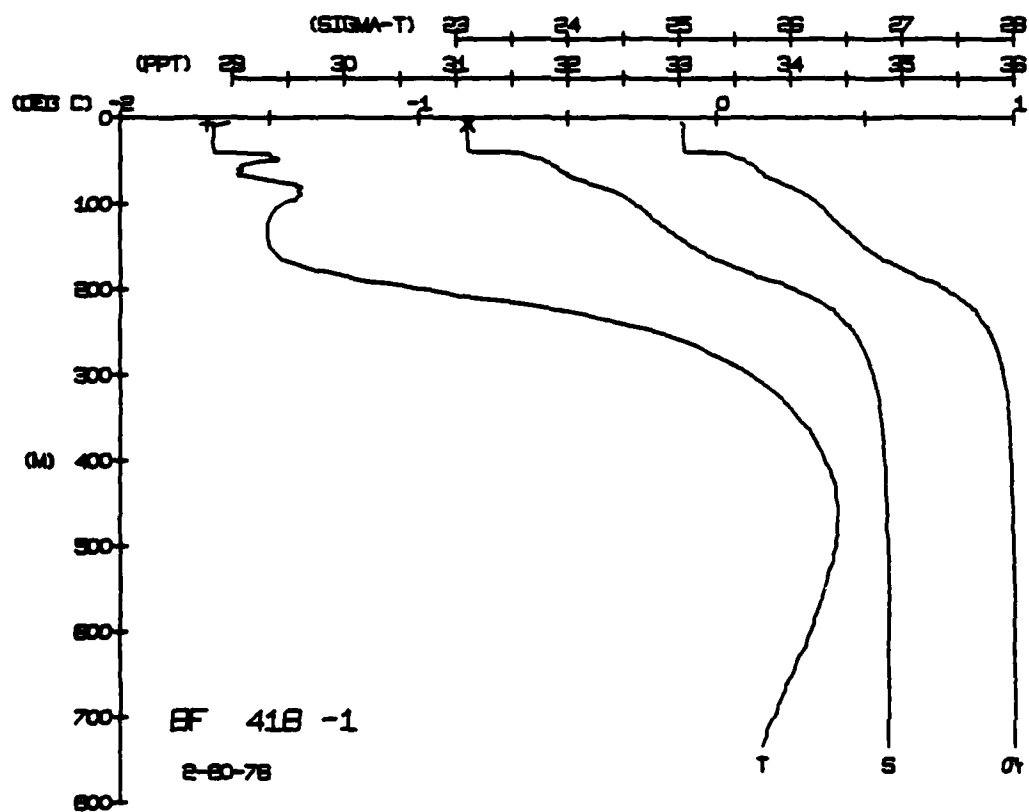
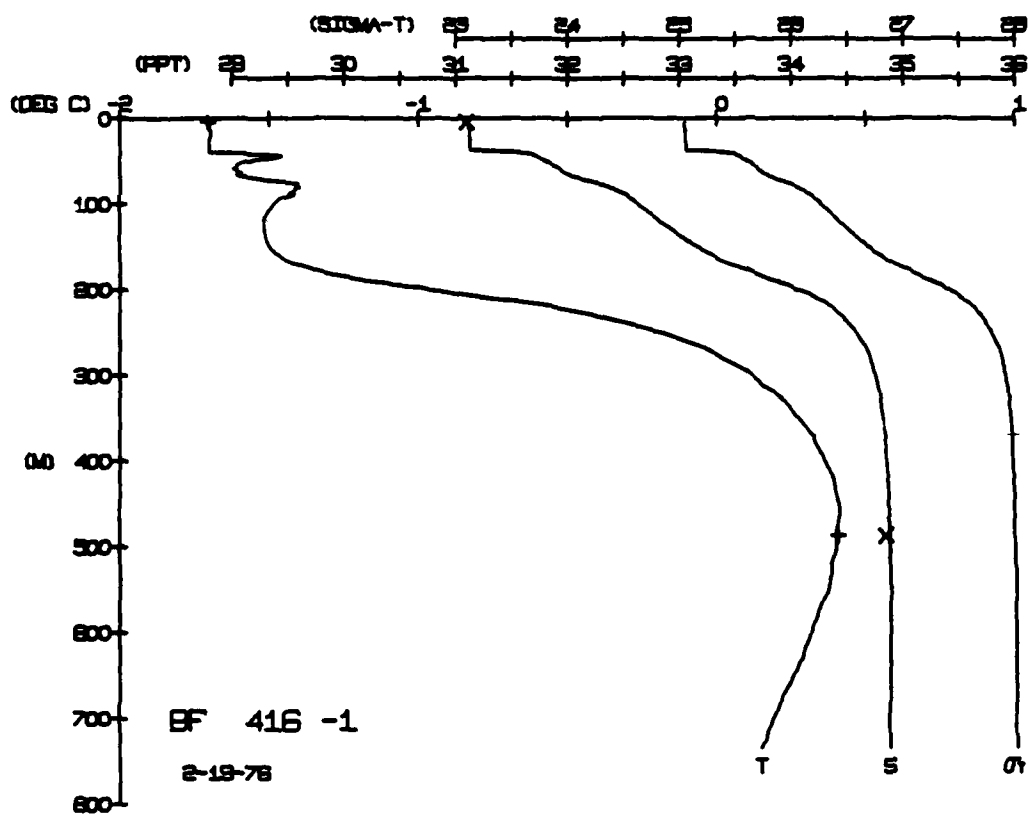




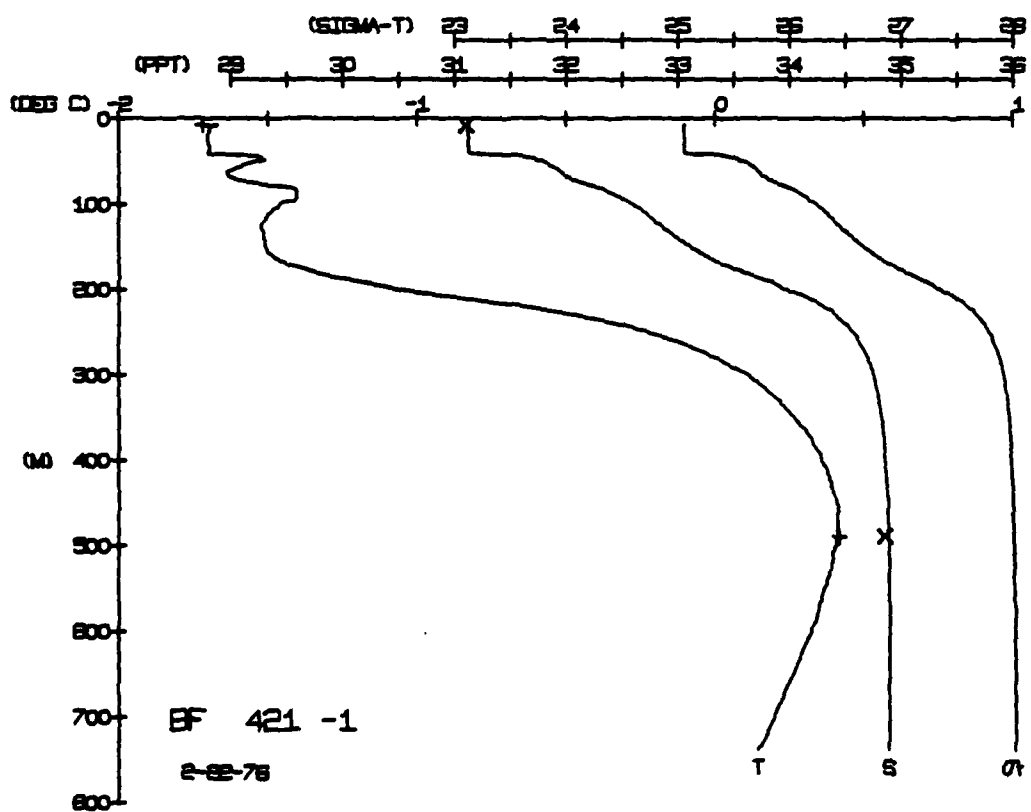
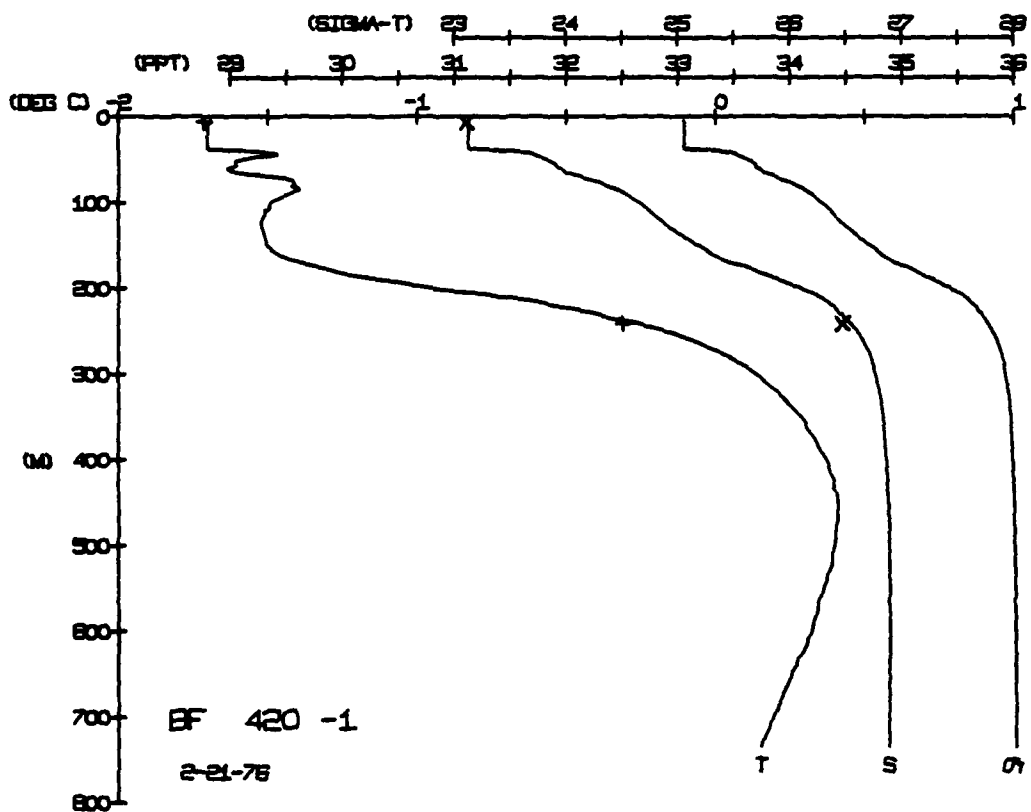






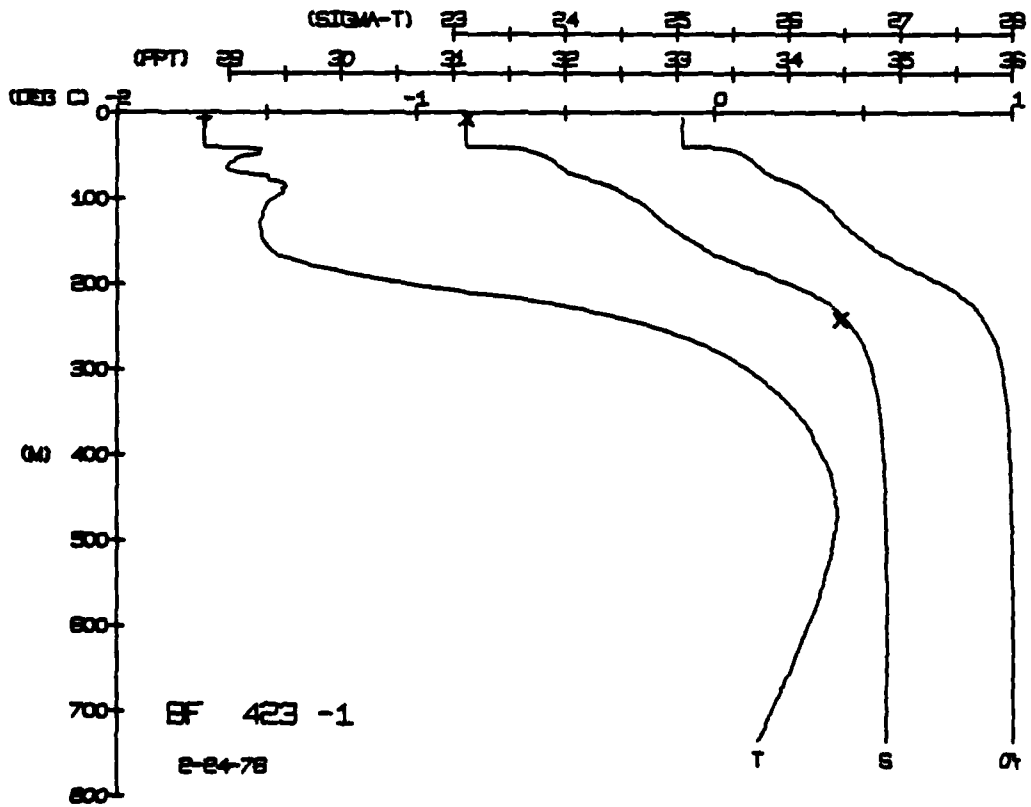
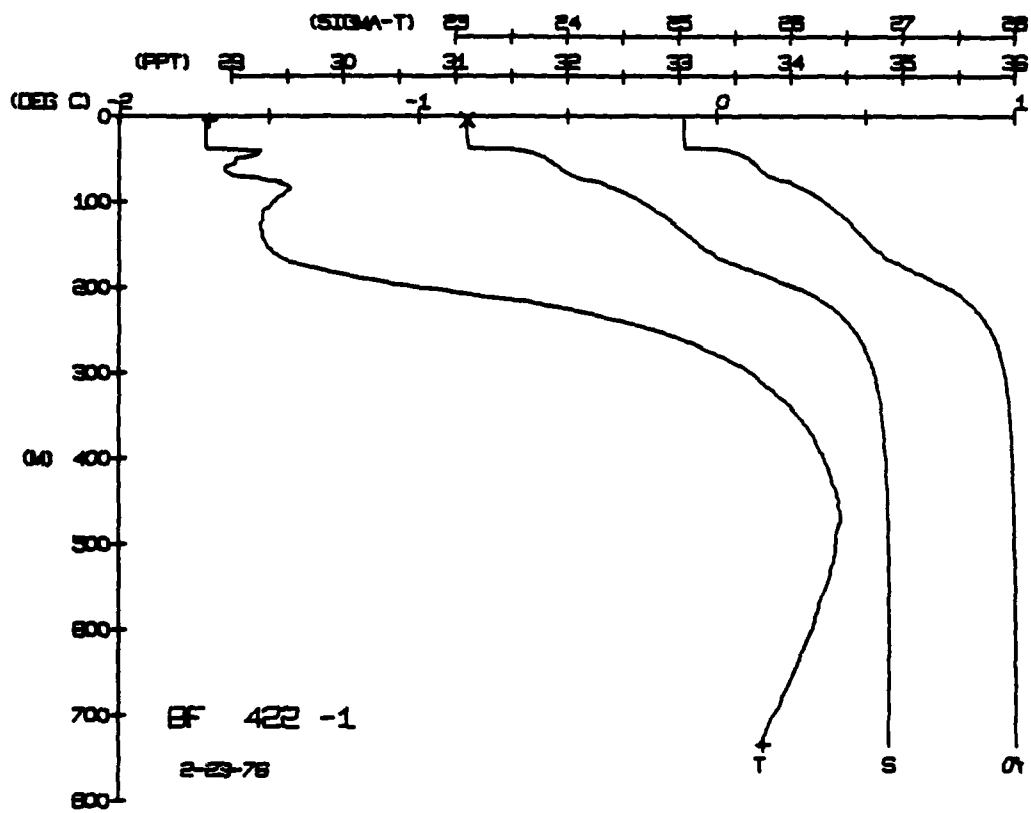




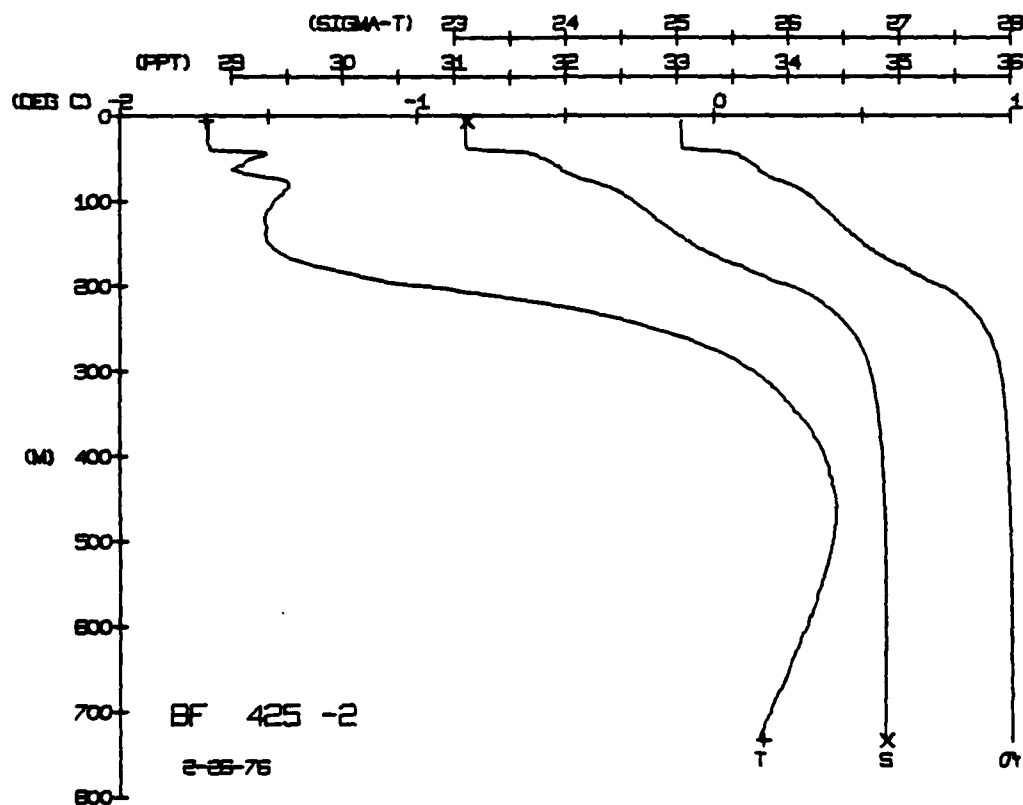
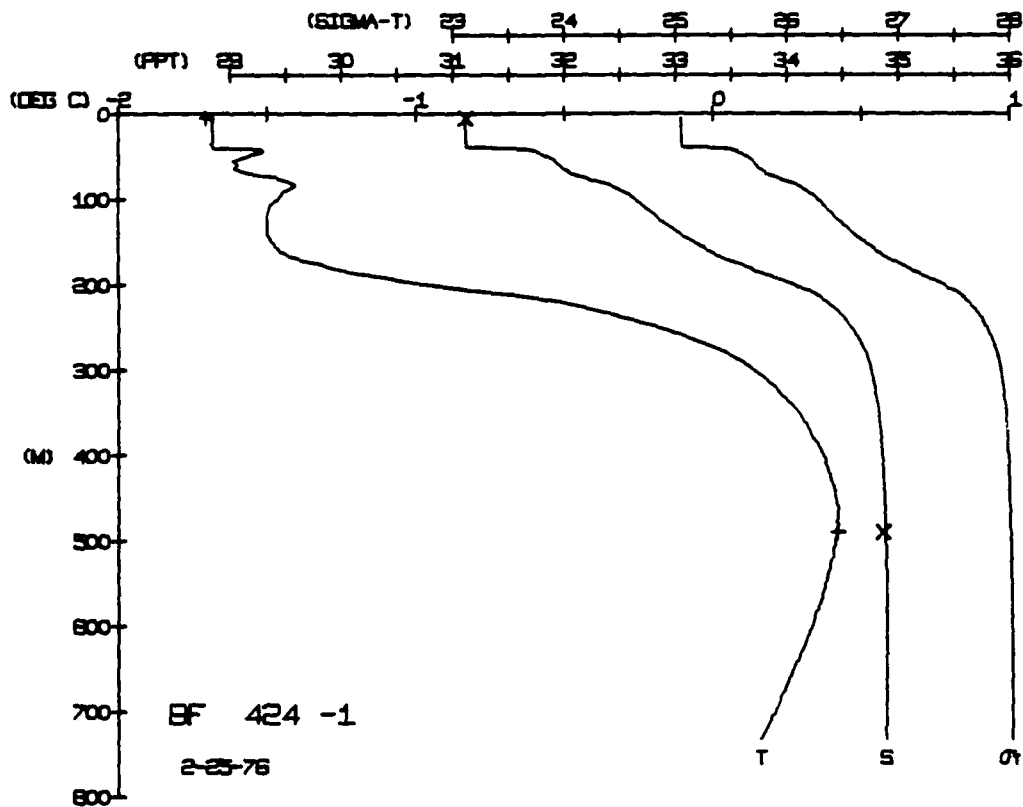




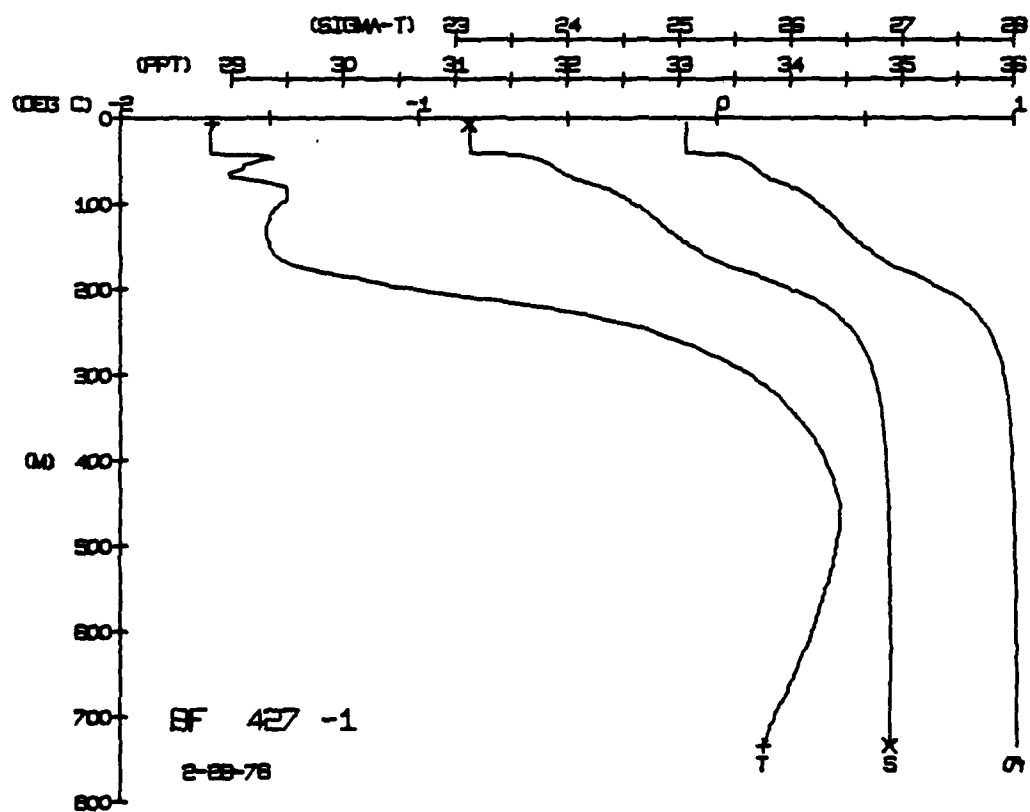
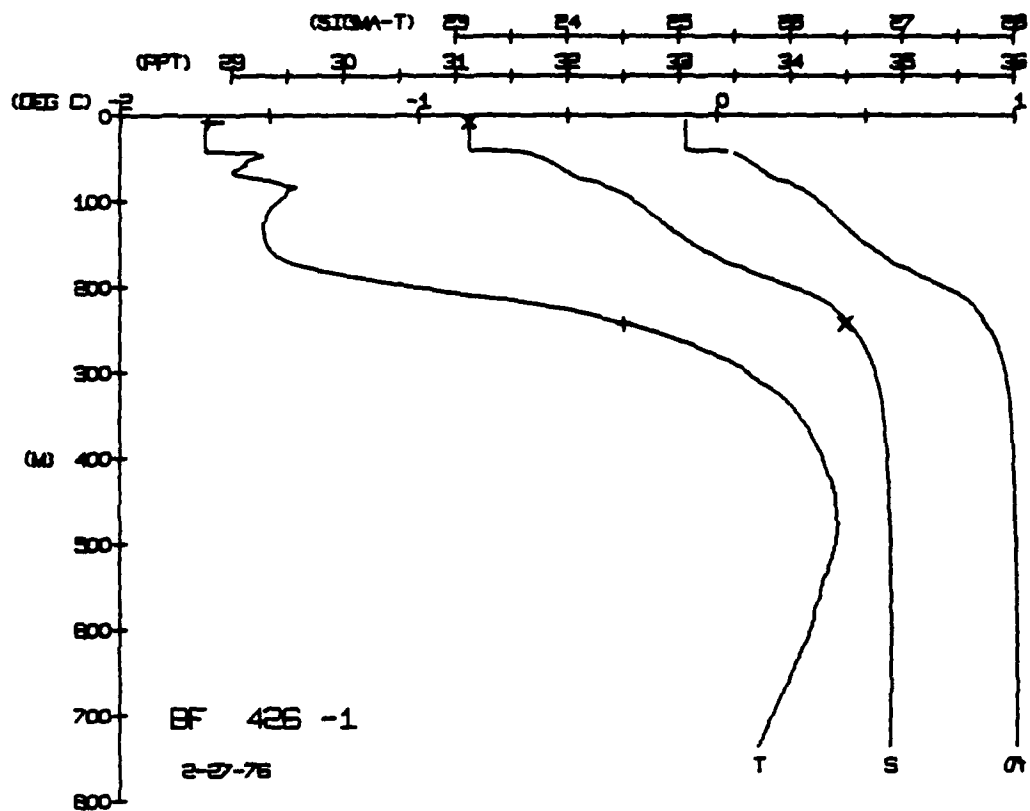




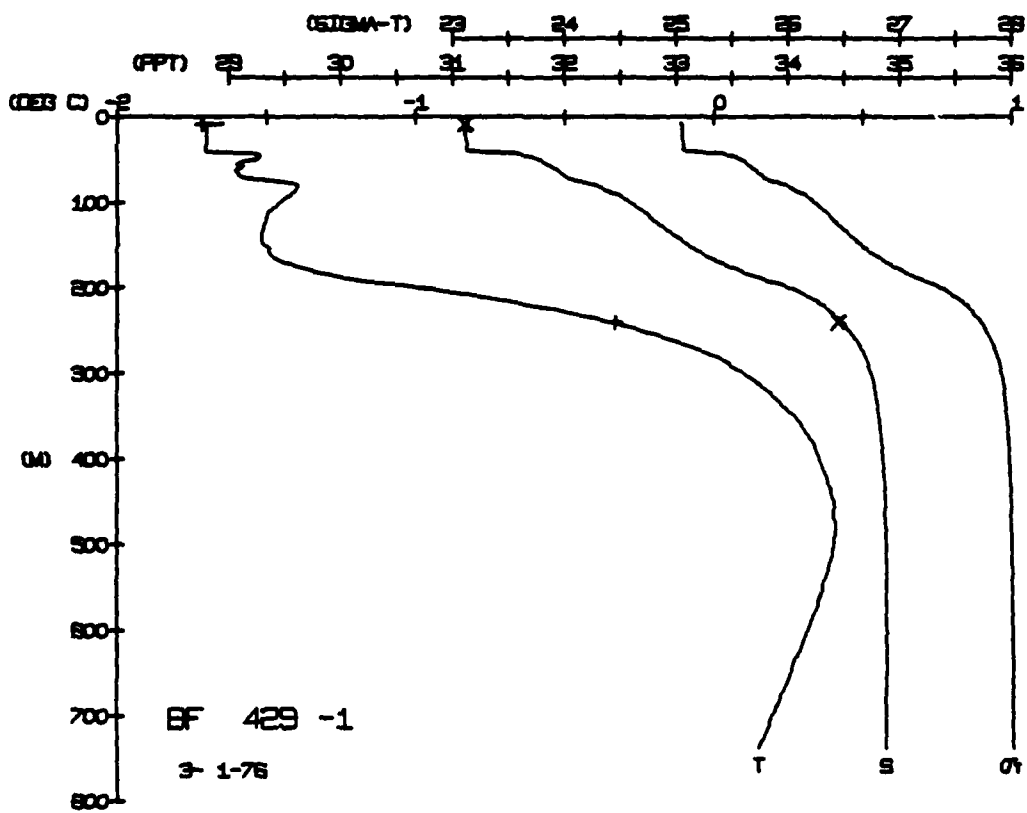
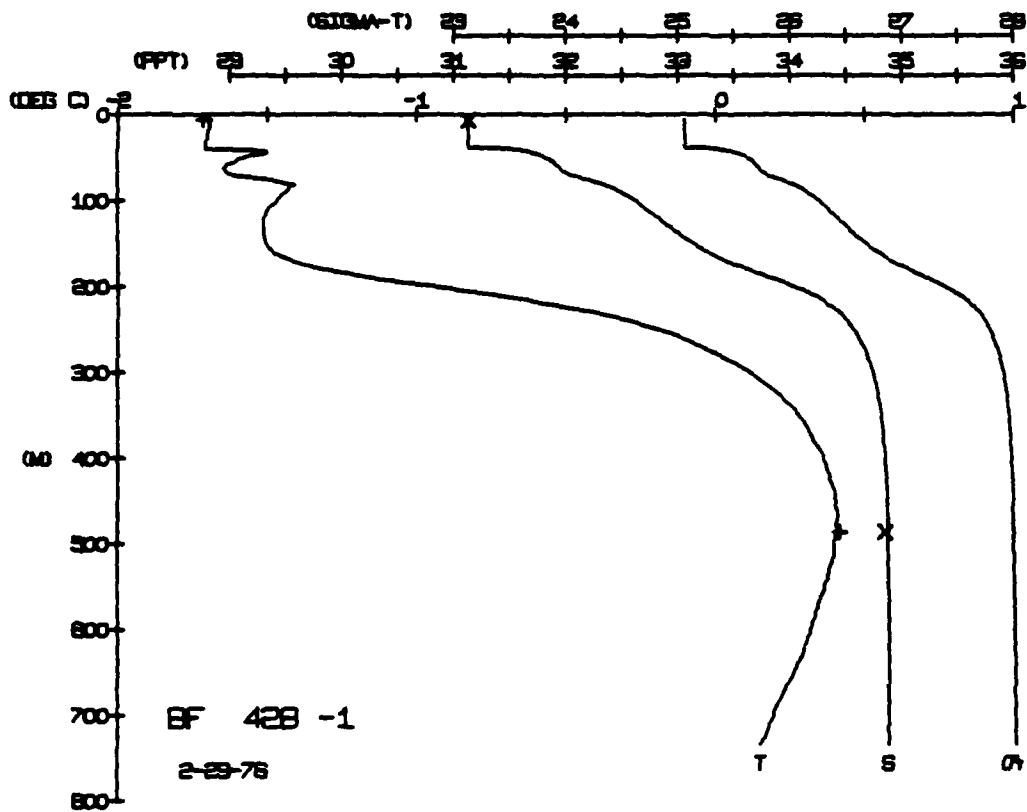






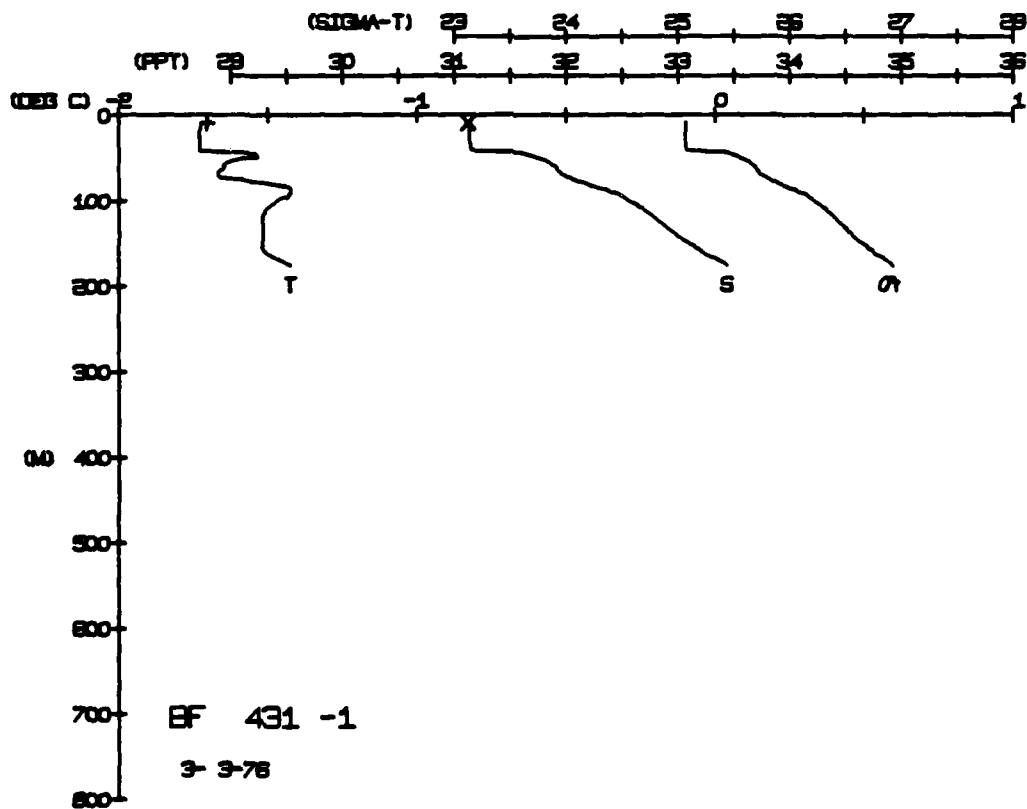
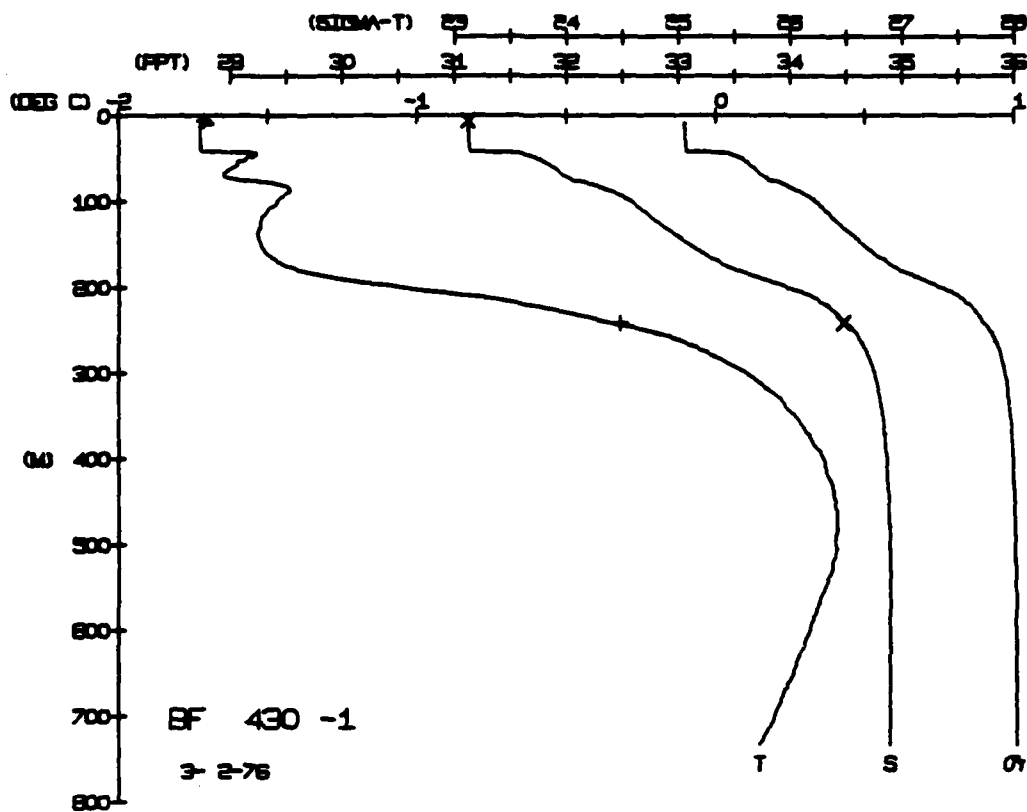




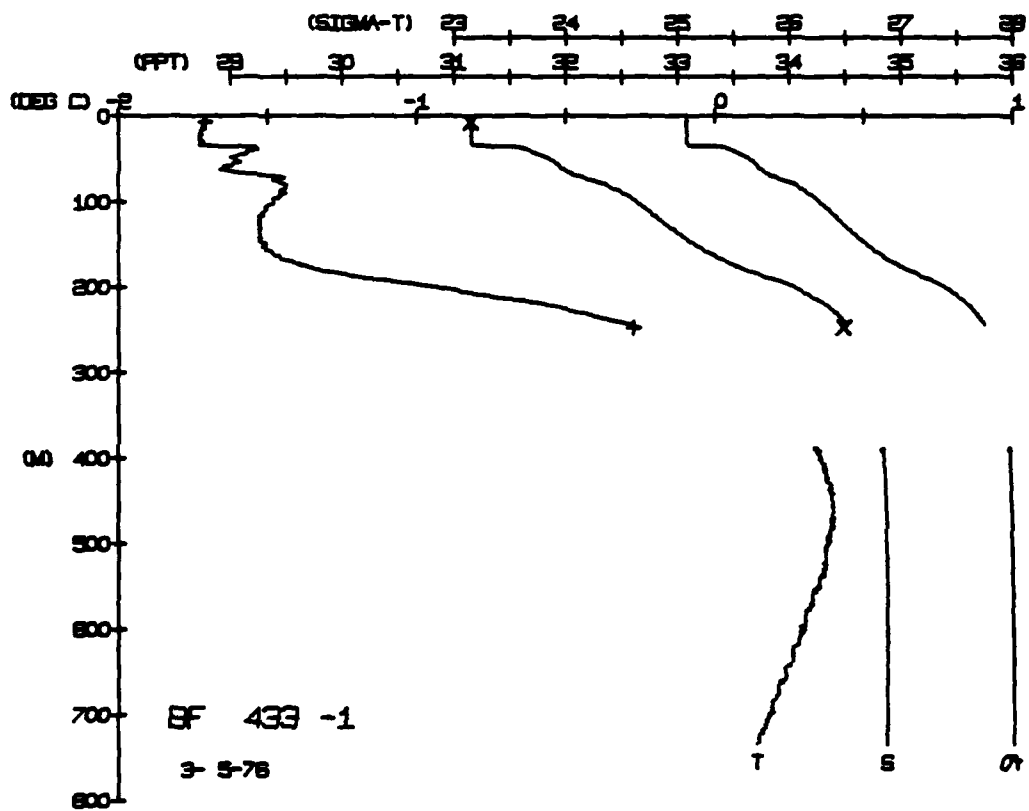
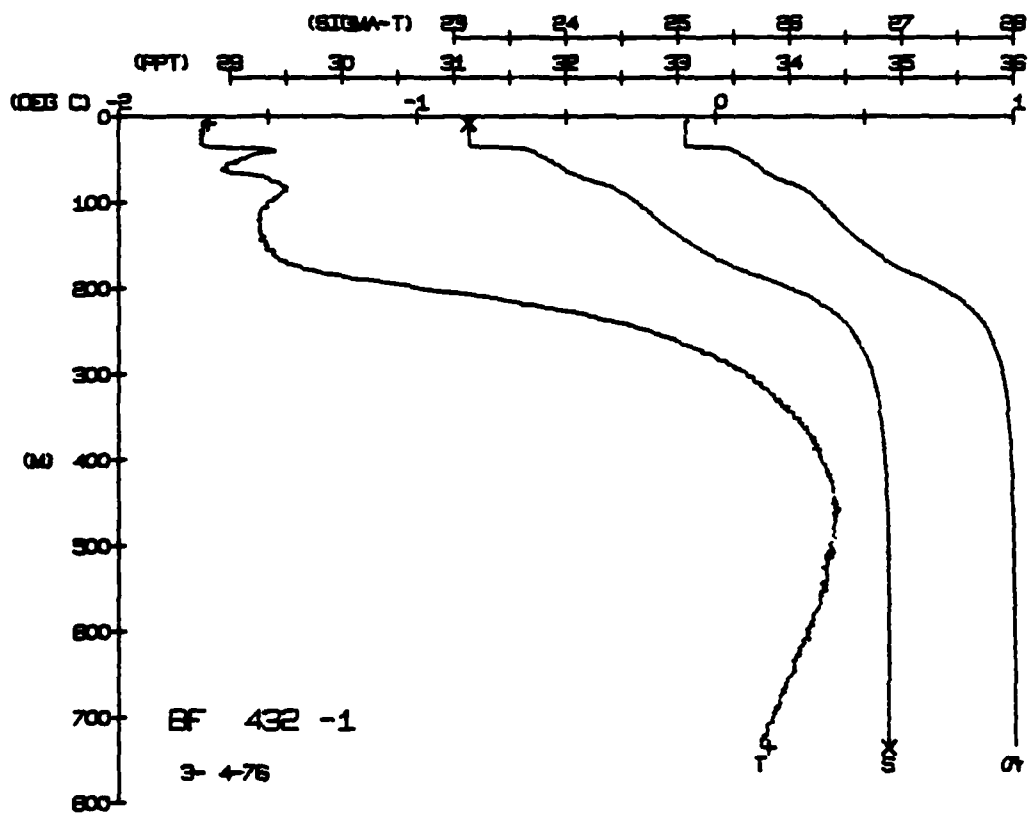






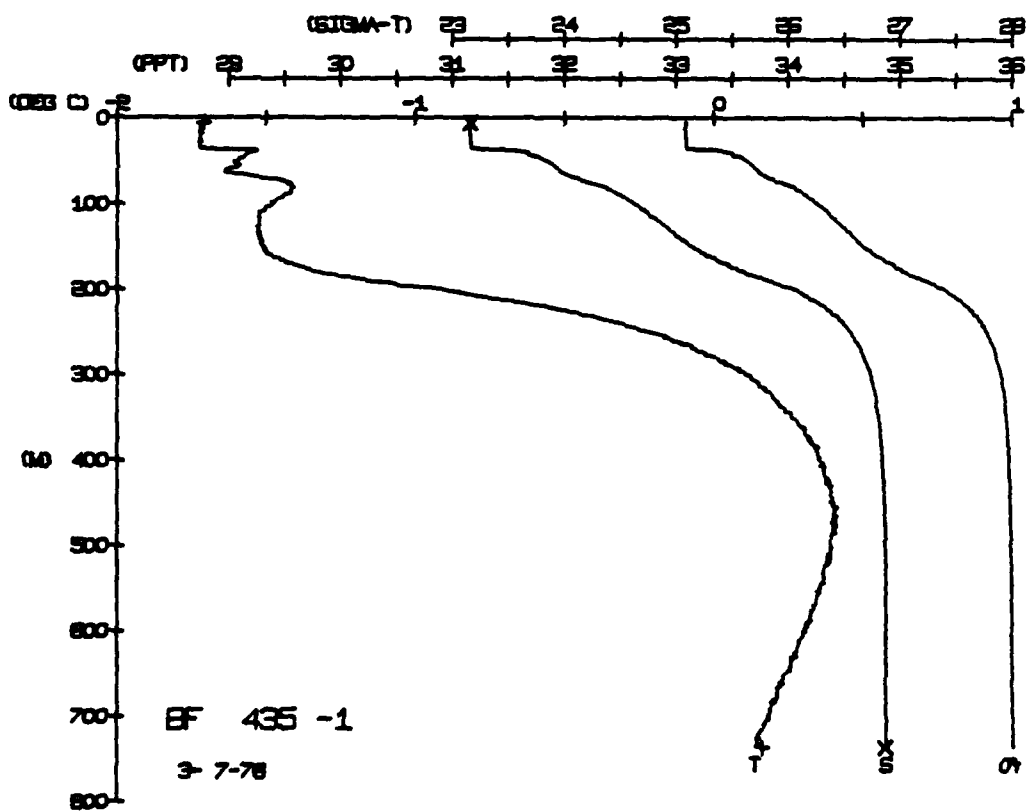
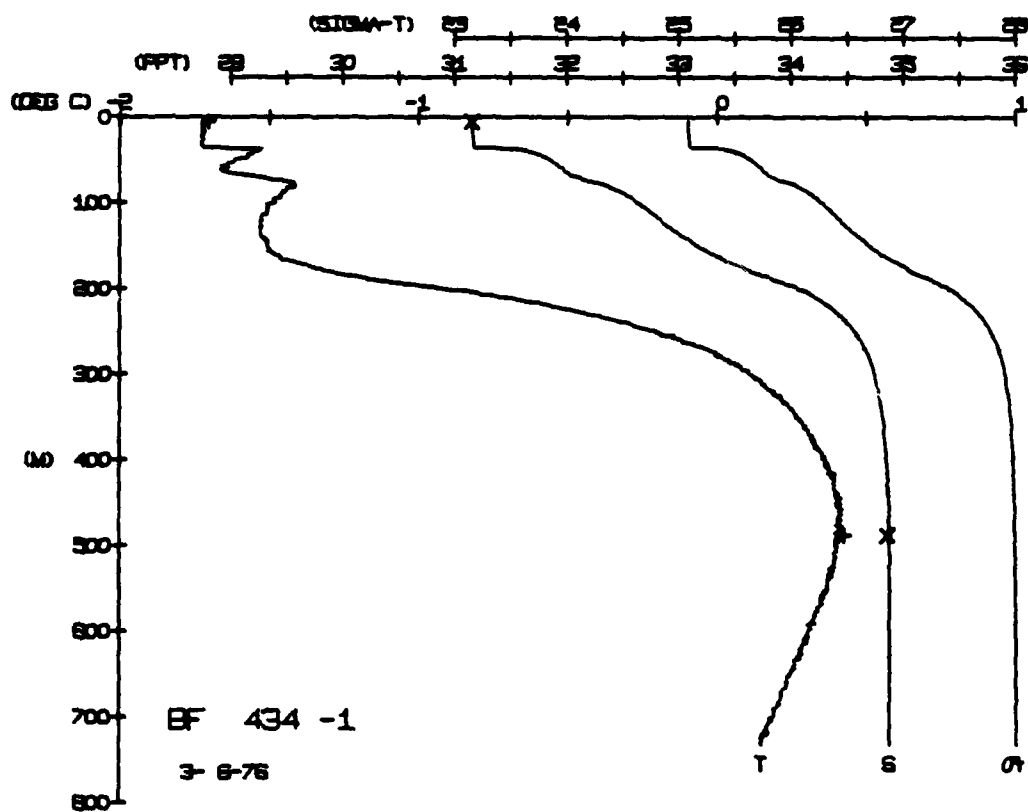






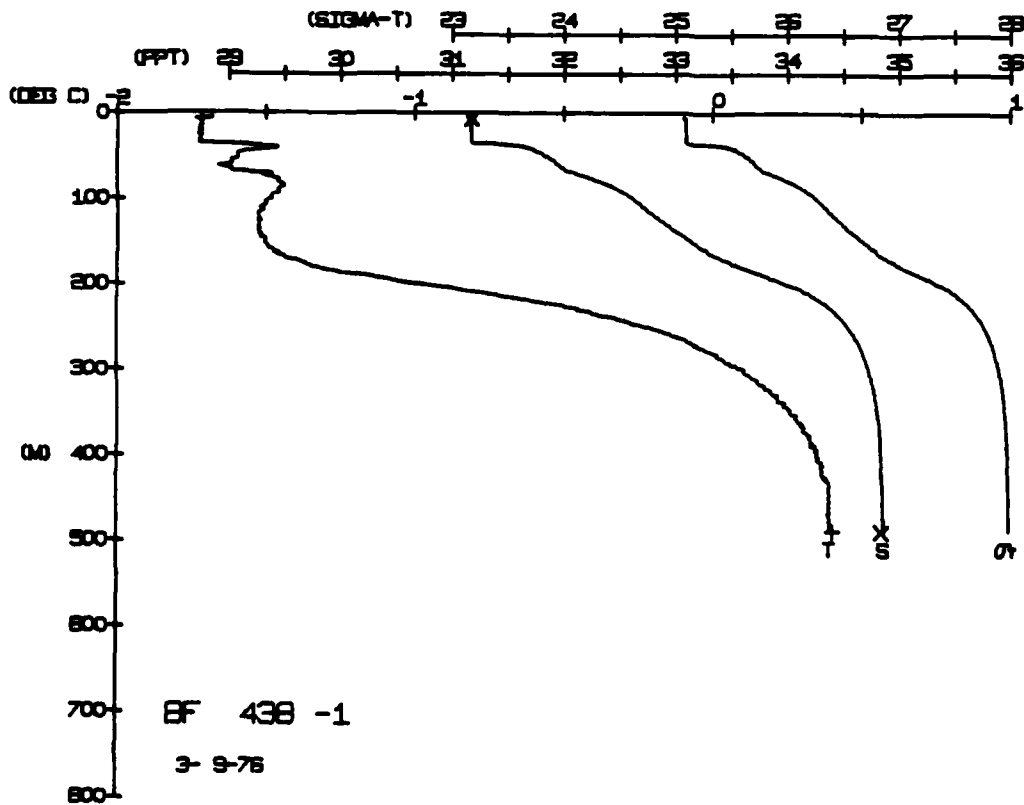
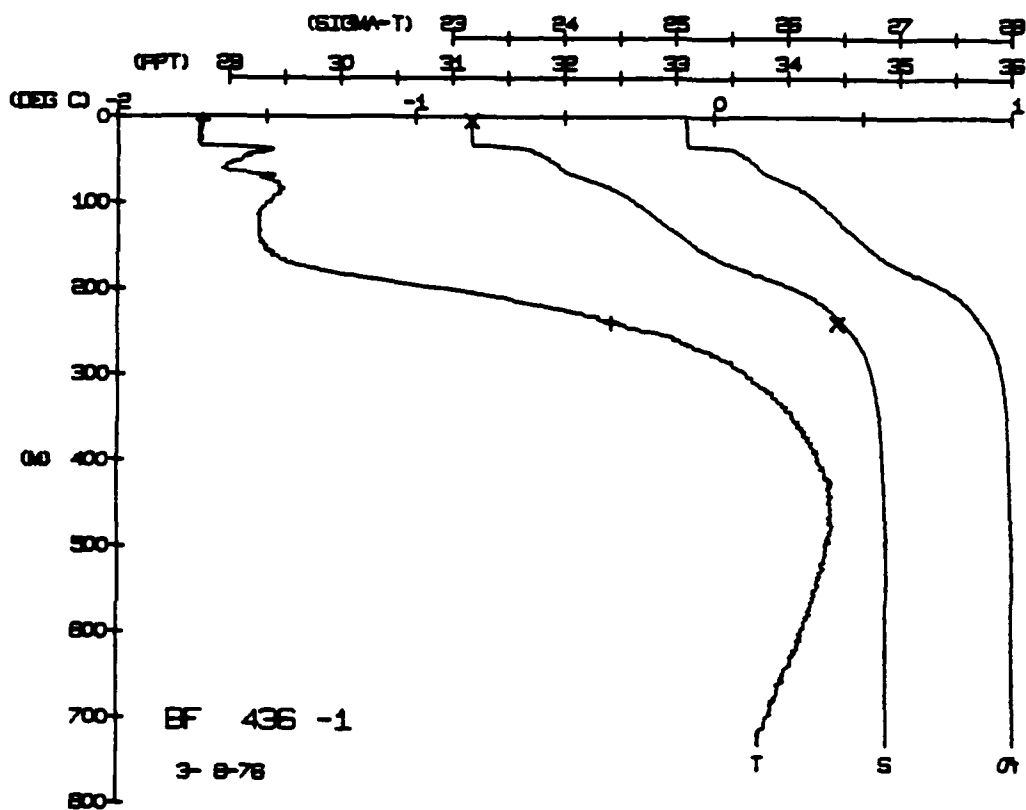
BLUE FOX STATION 435(1) CID 7/MAR/1976 1800 GMT CODE = 3  
LAT = 72.7915N LNG = 137.2310W I.TER = 1. LGEN = 1.  
AIR TEMP = -36.4 BARUM = 1024.5 WIND = 88.6 SPEED = 40.0

[illegible]



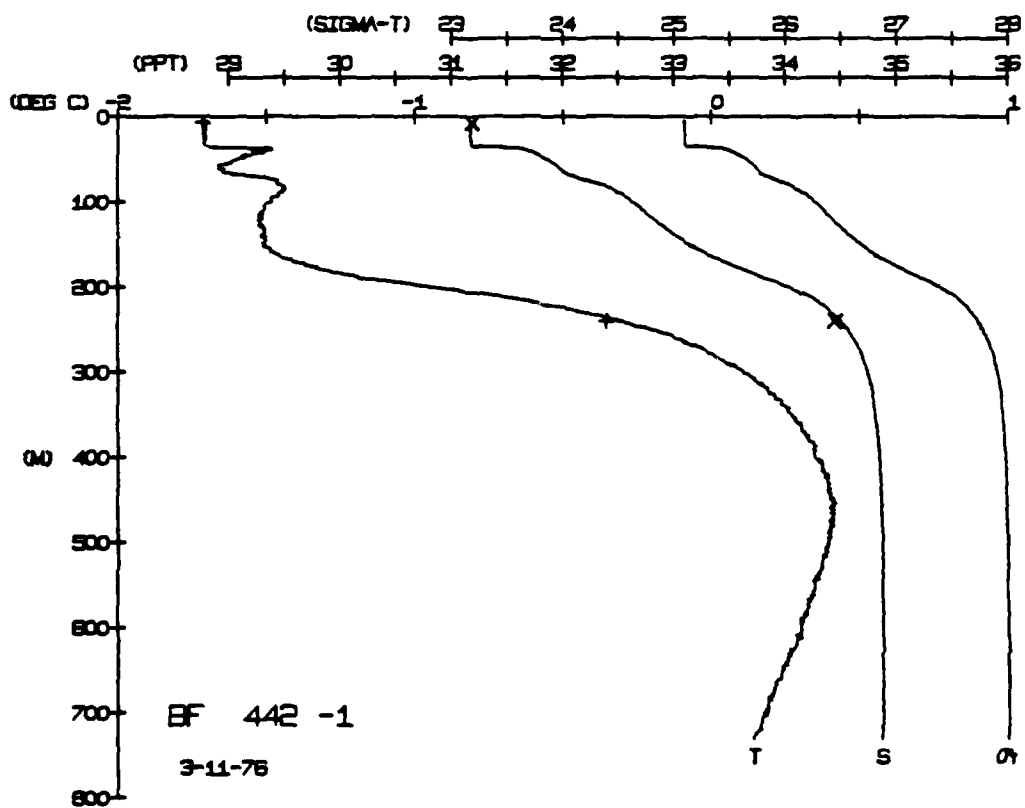
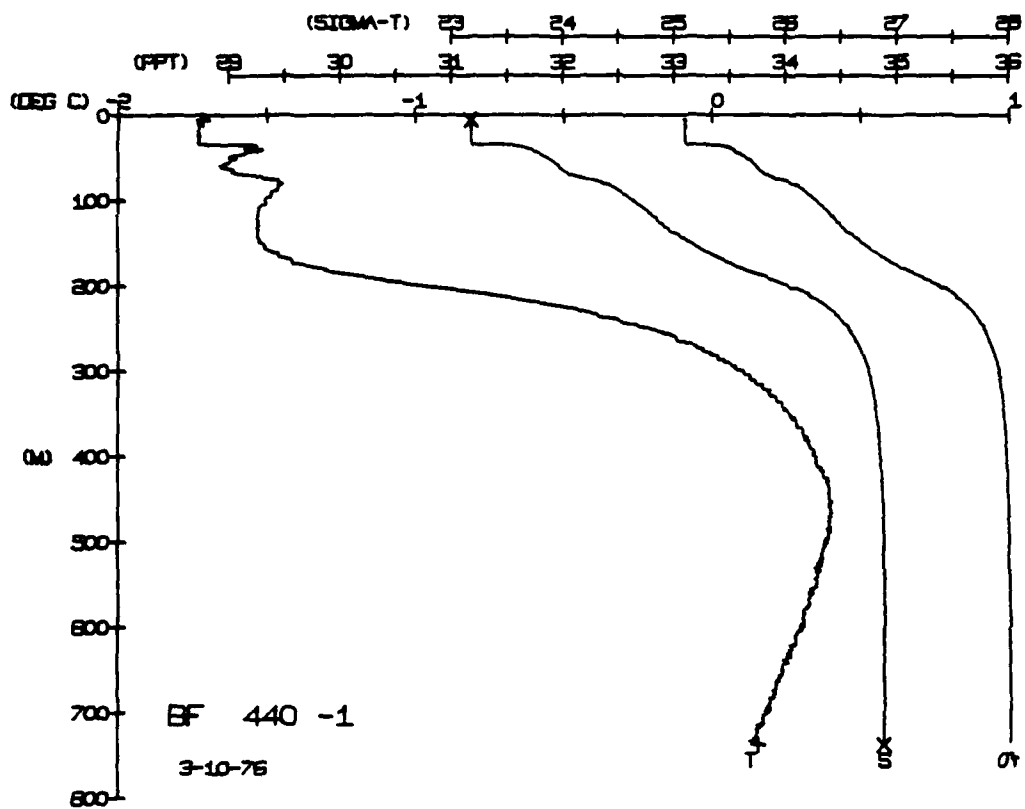
DEPTH	TEMP	PTEMP	SALIN	SIG T	SPVUL	DYMET	SOUND
0000	17.77	17.77	35.17	0.00	5.00	0000	0000
0001	17.77	17.77	35.17	0.00	5.00	0000	0000
0002	17.77	17.77	35.17	0.00	5.00	0000	0000
0003	17.77	17.77	35.17	0.00	5.00	0000	0000
0004	17.77	17.77	35.17	0.00	5.00	0000	0000
0005	17.77	17.77	35.17	0.00	5.00	0000	0000
0006	17.77	17.77	35.17	0.00	5.00	0000	0000
0007	17.77	17.77	35.17	0.00	5.00	0000	0000
0008	17.77	17.77	35.17	0.00	5.00	0000	0000
0009	17.77	17.77	35.17	0.00	5.00	0000	0000
0010	17.77	17.77	35.17	0.00	5.00	0000	0000
0011	17.77	17.77	35.17	0.00	5.00	0000	0000
0012	17.77	17.77	35.17	0.00	5.00	0000	0000
0013	17.77	17.77	35.17	0.00	5.00	0000	0000
0014	17.77	17.77	35.17	0.00	5.00	0000	0000
0015	17.77	17.77	35.17	0.00	5.00	0000	0000
0016	17.77	17.77	35.17	0.00	5.00	0000	0000
0017	17.77	17.77	35.17	0.00	5.00	0000	0000
0018	17.77	17.77	35.17	0.00	5.00	0000	0000
0019	17.77	17.77	35.17	0.00	5.00	0000	0000
0020	17.77	17.77	35.17	0.00	5.00	0000	0000
0021	17.77	17.77	35.17	0.00	5.00	0000	0000
0022	17.77	17.77	35.17	0.00	5.00	0000	0000
0023	17.77	17.77	35.17	0.00	5.00	0000	0000
0024	17.77	17.77	35.17	0.00	5.00	0000	0000
0025	17.77	17.77	35.17	0.00	5.00	0000	0000
0026	17.77	17.77	35.17	0.00	5.00	0000	0000
0027	17.77	17.77	35.17	0.00	5.00	0000	0000
0028	17.77	17.77	35.17	0.00	5.00	0000	0000
0029	17.77	17.77	35.17	0.00	5.00	0000	0000
0030	17.77	17.77	35.17	0.00	5.00	0000	0000
0031	17.77	17.77	35.17	0.00	5.00	0000	0000
0032	17.77	17.77	35.17	0.00	5.00	0000	0000
0033	17.77	17.77	35.17	0.00	5.00	0000	0000
0034	17.77	17.77	35.17	0.00	5.00	0000	0000
0035	17.77	17.77	35.17	0.00	5.00	0000	0000
0036	17.77	17.77	35.17	0.00	5.00	0000	0000
0037	17.77	17.77	35.17	0.00	5.00	0000	0000
0038	17.77	17.77	35.17	0.00	5.00	0000	0000
0039	17.77	17.77	35.17	0.00	5.00	0000	0000
0040	17.77	17.77	35.17	0.00	5.00	0000	0000
0041	17.77	17.77	35.17	0.00	5.00	0000	0000
0042	17.77	17.77	35.17	0.00	5.00	0000	0000
0043	17.77	17.77	35.17	0.00	5.00	0000	0000
0044	17.77	17.77	35.17	0.00	5.00	0000	0000
0045	17.77	17.77	35.17	0.00	5.00	0000	0000
0046	17.77	17.77	35.17	0.00	5.00	0000	0000
0047	17.77	17.77	35.17	0.00	5.00	0000	0000
0048	17.77	17.77	35.17	0.00	5.00	0000	0000
0049	17.77	17.77	35.17	0.00			

[illegible]

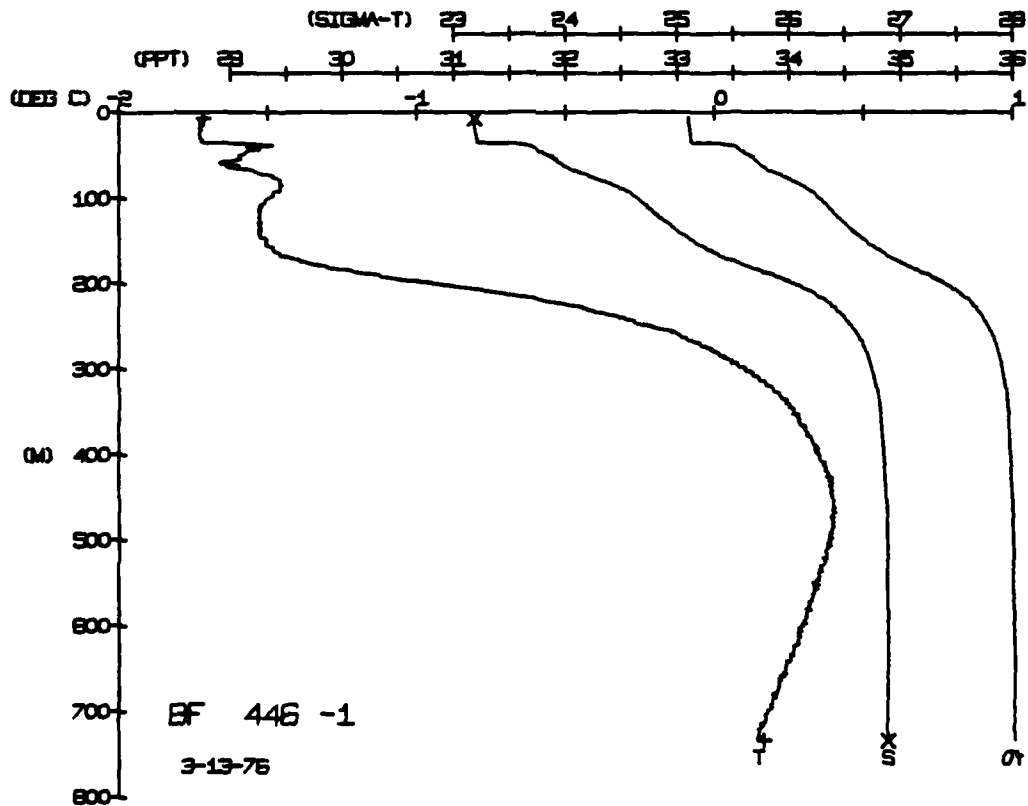
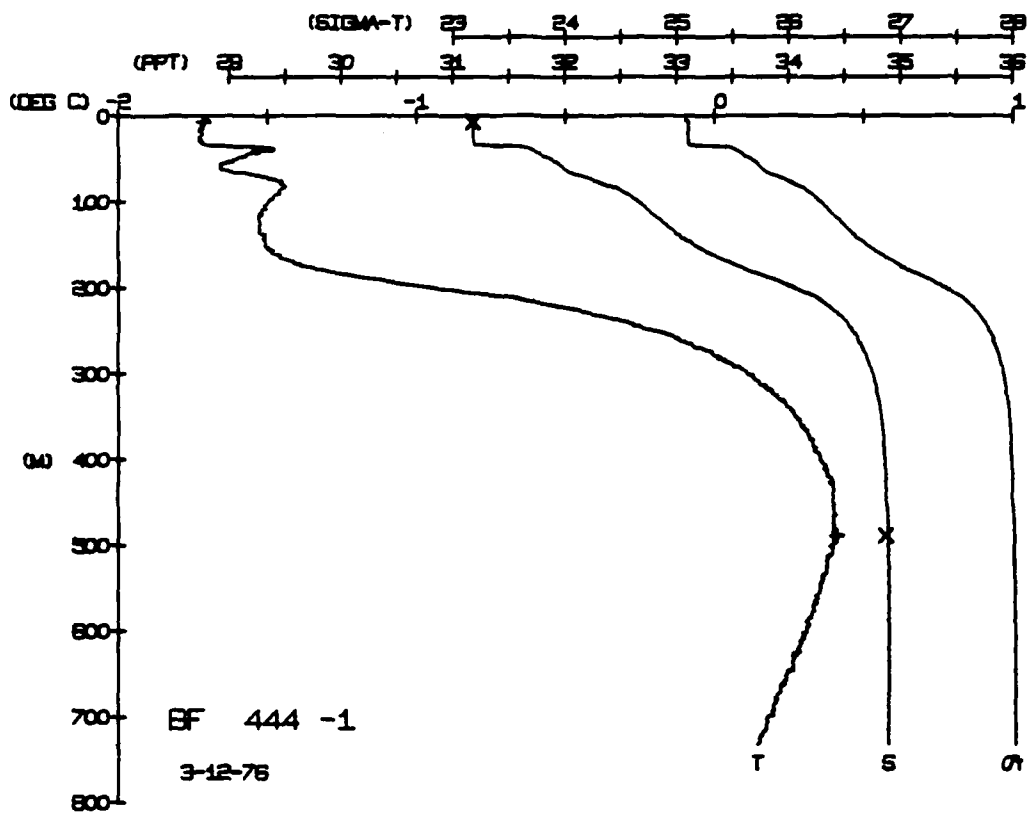




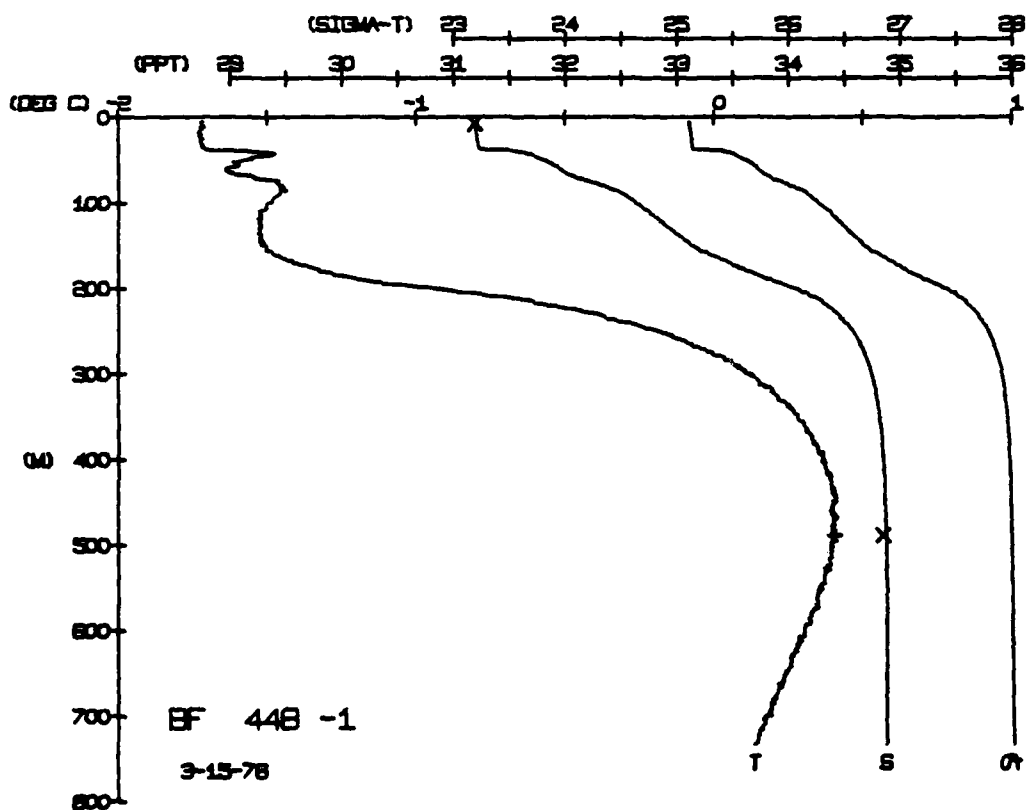
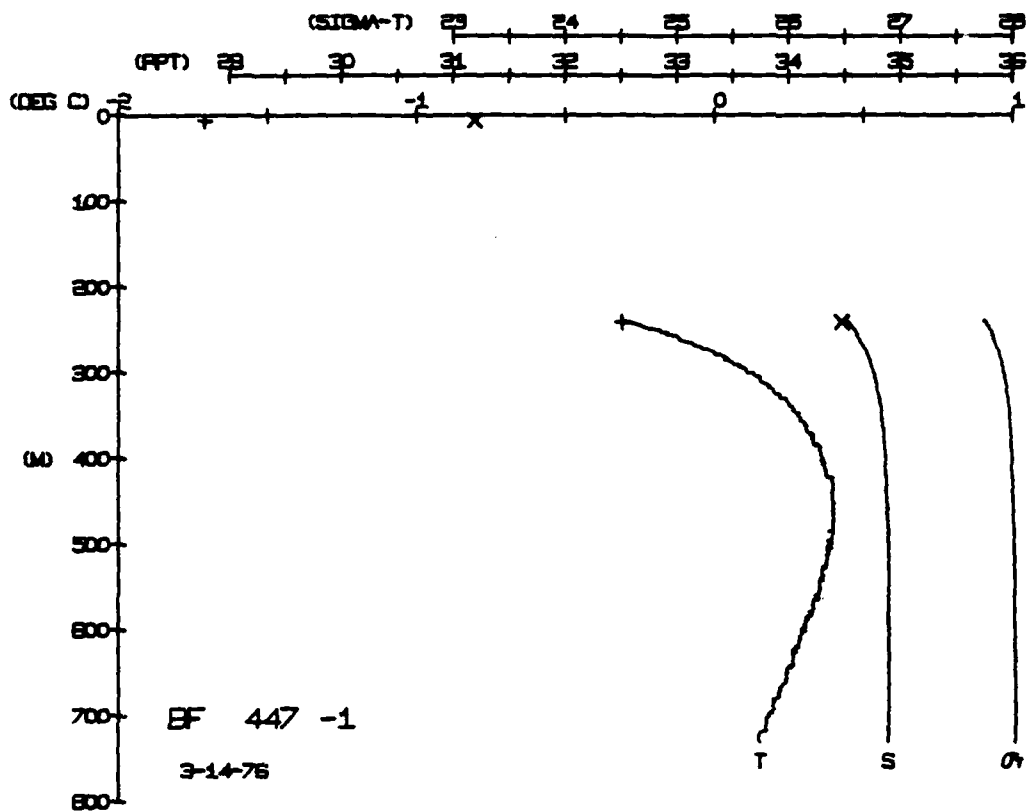








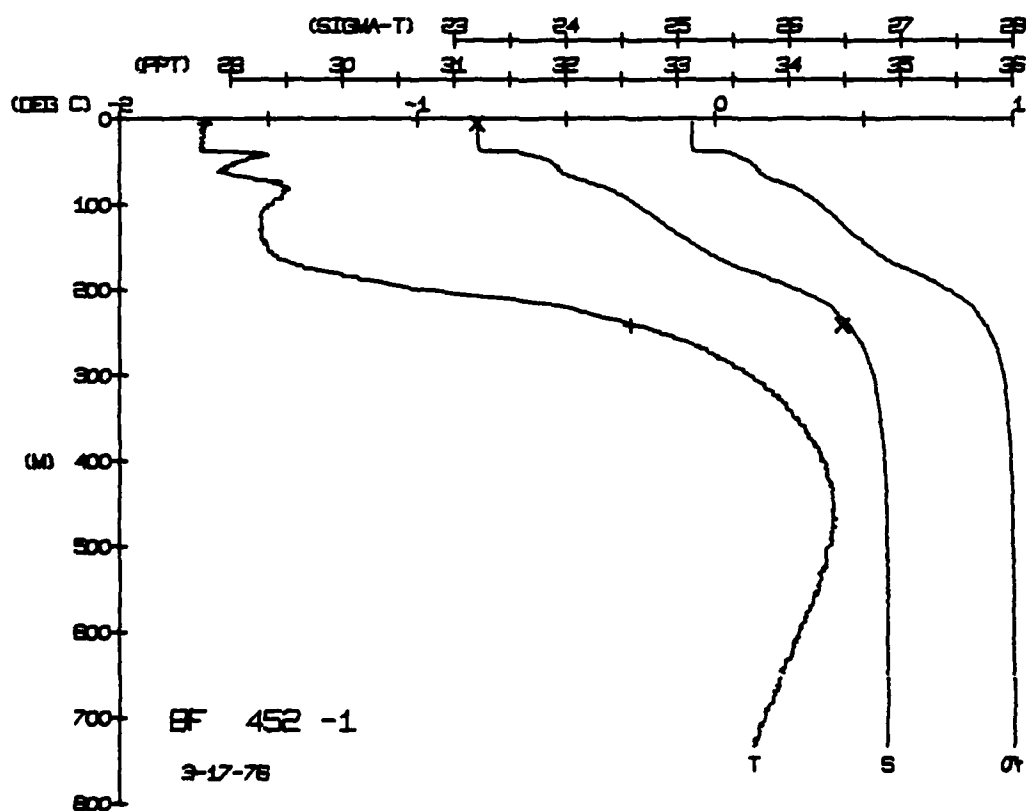
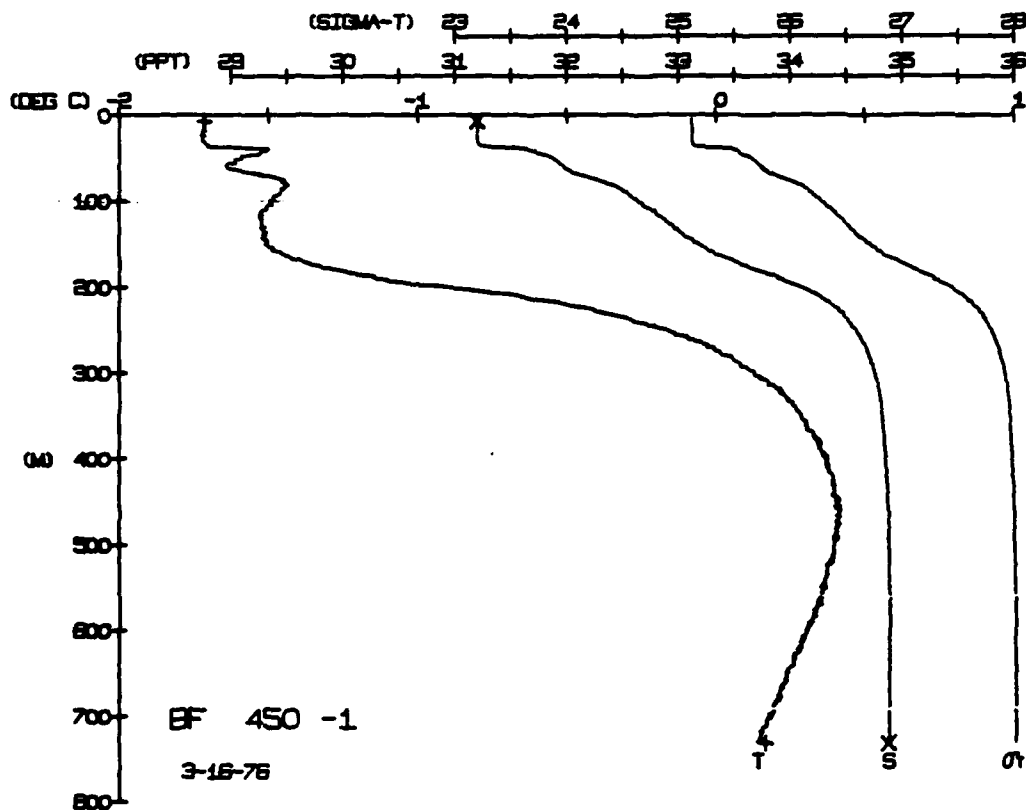




BLUE FOX STATION 452(1) CTD 17/MAR/1976 1802 GMT CODE = 3  
LAT = 72.7236N LNG = 137.1712W LTER = 1. LGER = 1.  
AIR TEMP = -26.1 BAROM = 1007.1 WIND = 286.4 SPEED = 61.7

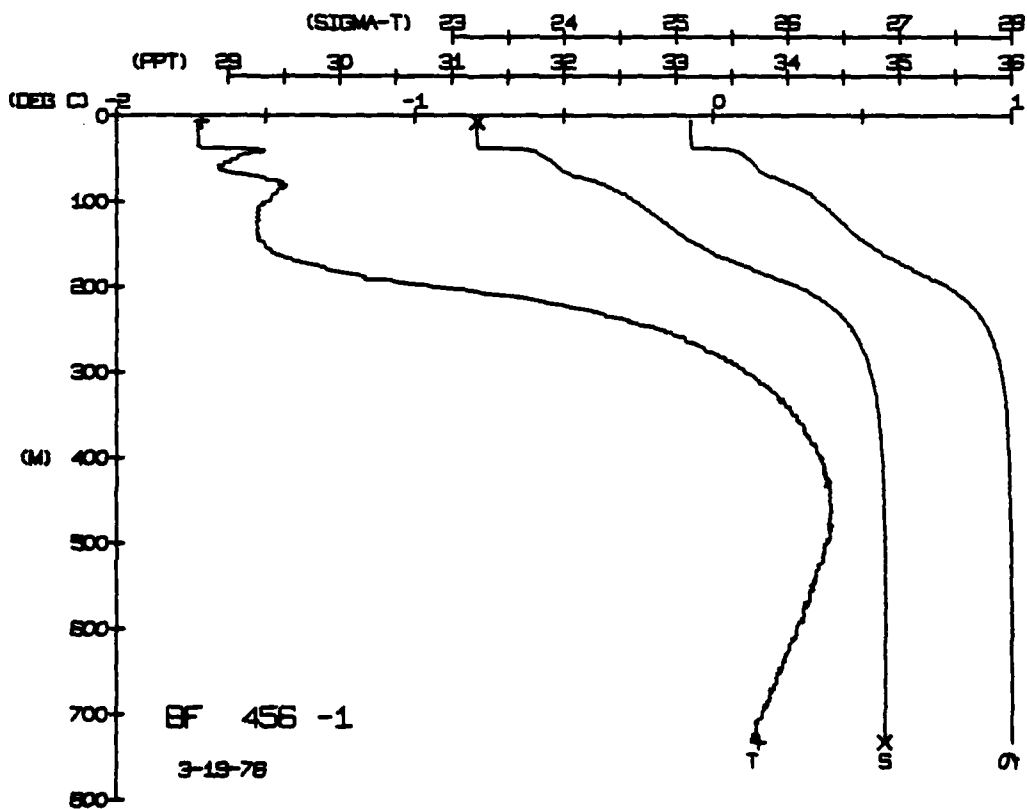
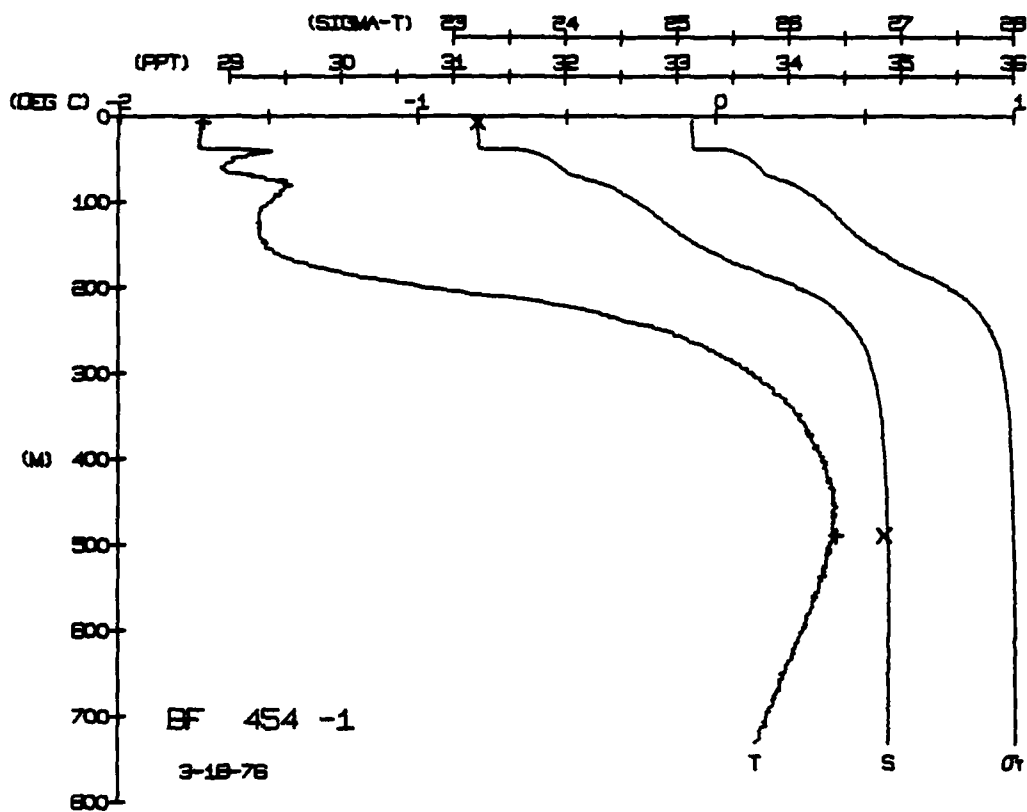
[illegible]

DEPTH	TEMP.	SALIN
5.4	-1.72	31.19
241.5	-0.28	34.49

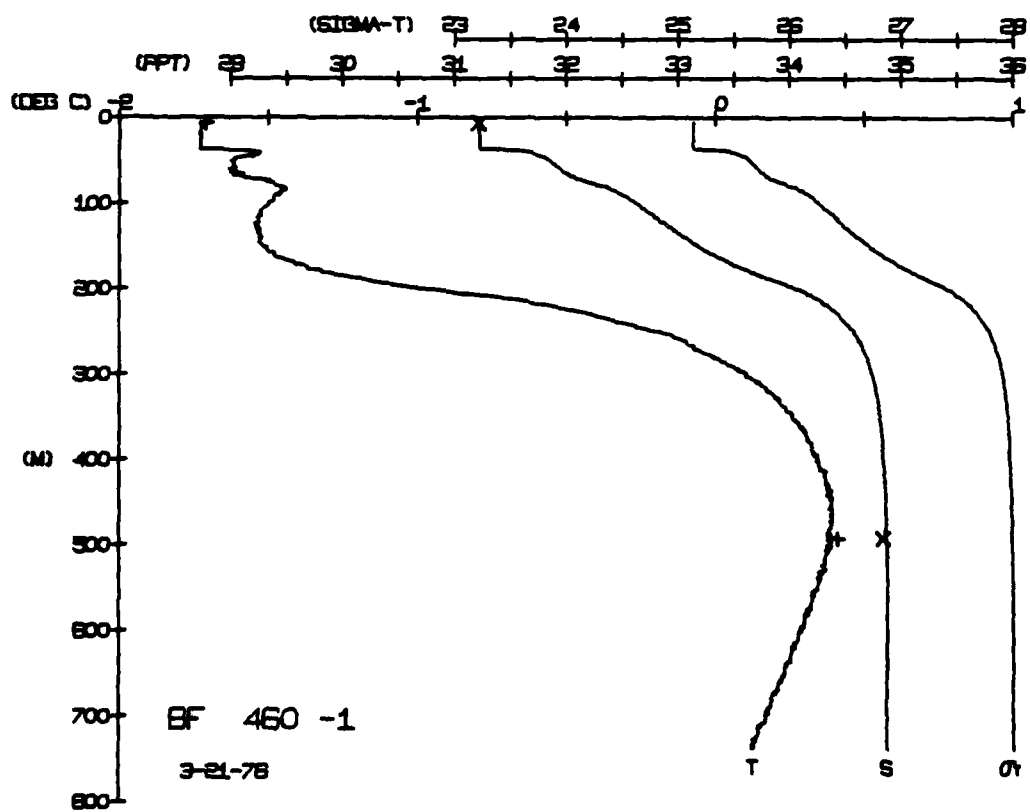
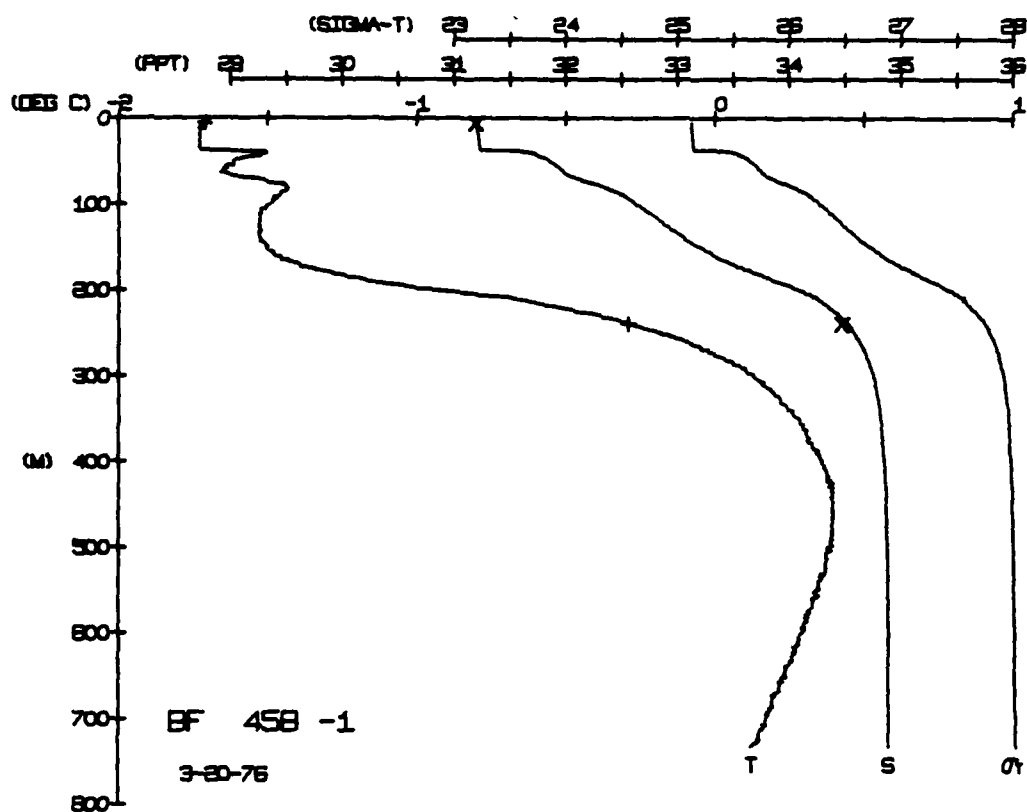




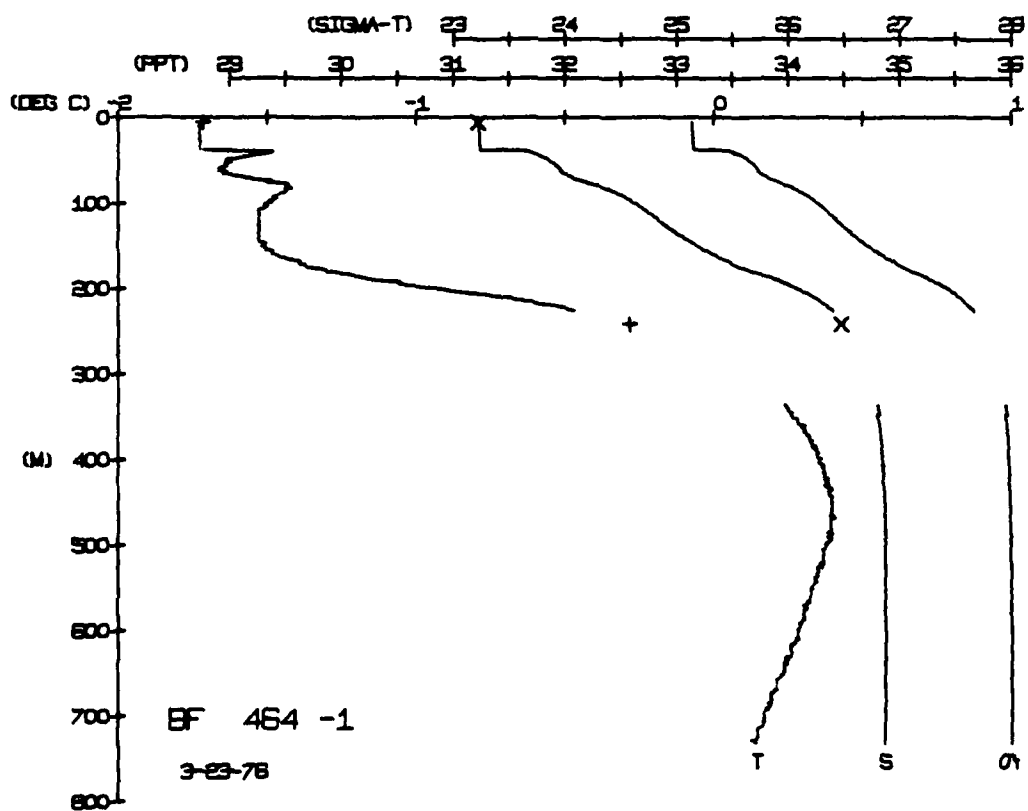
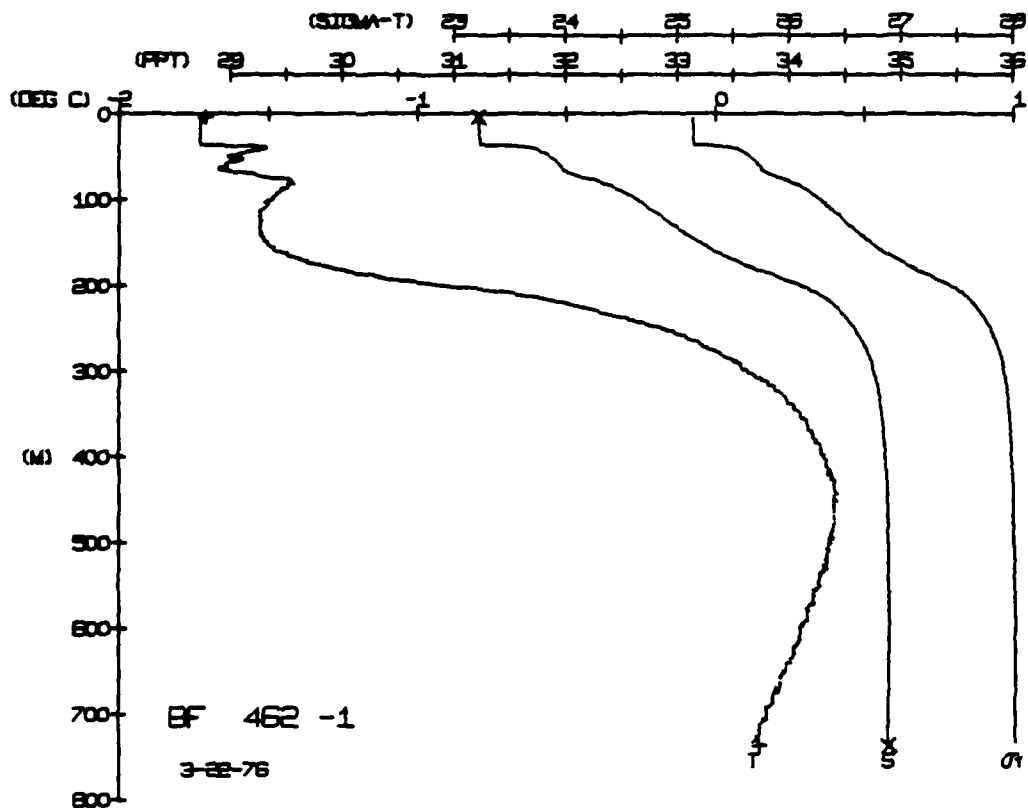




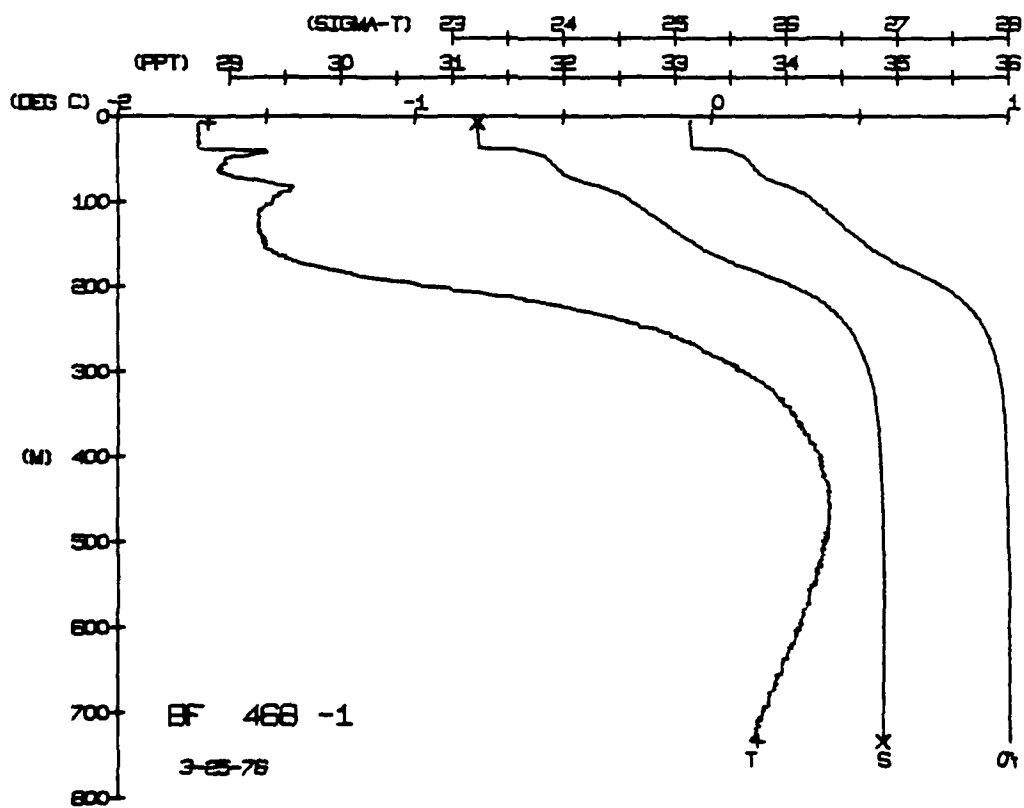
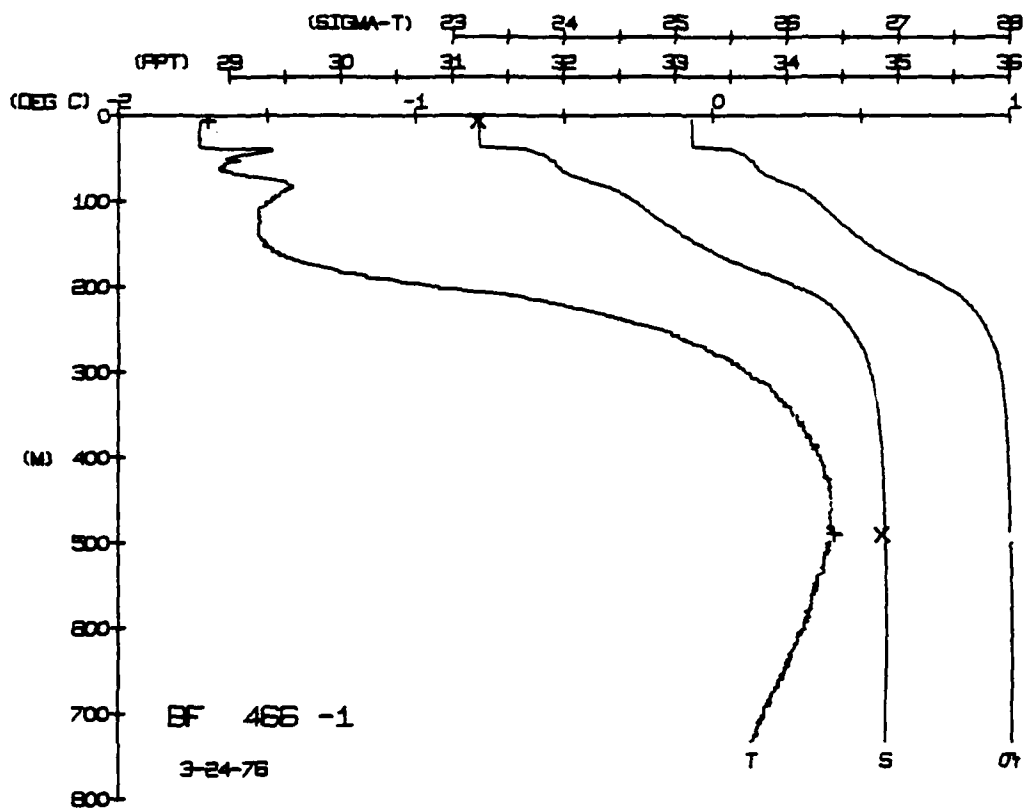






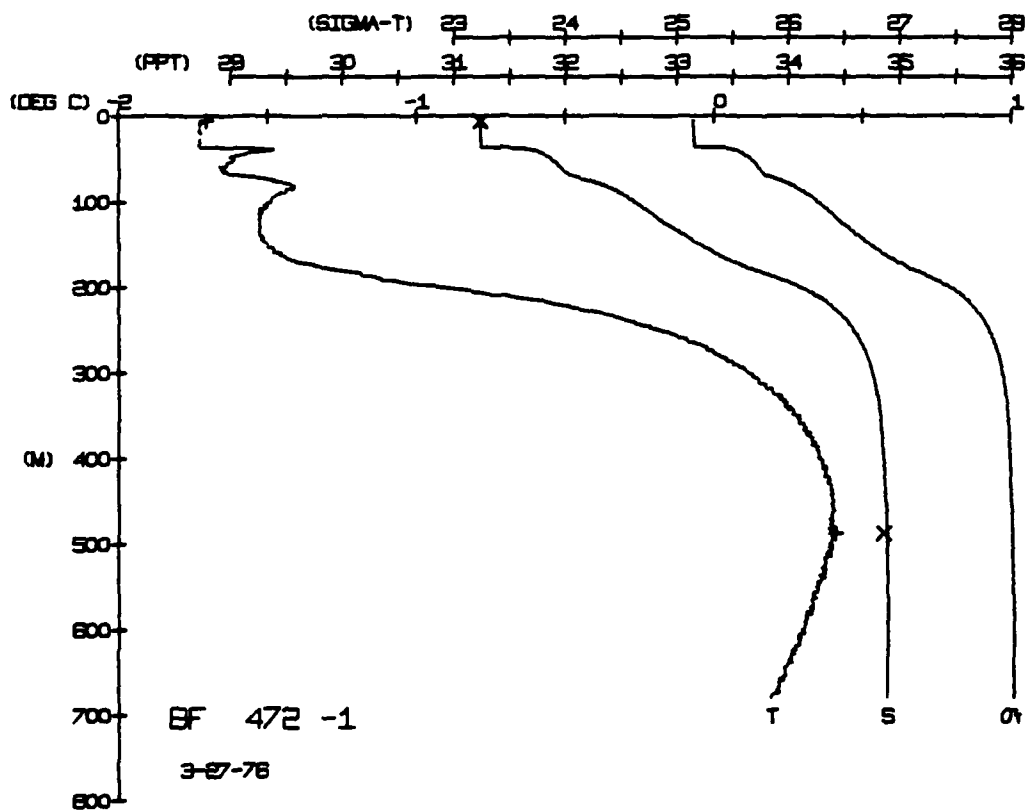
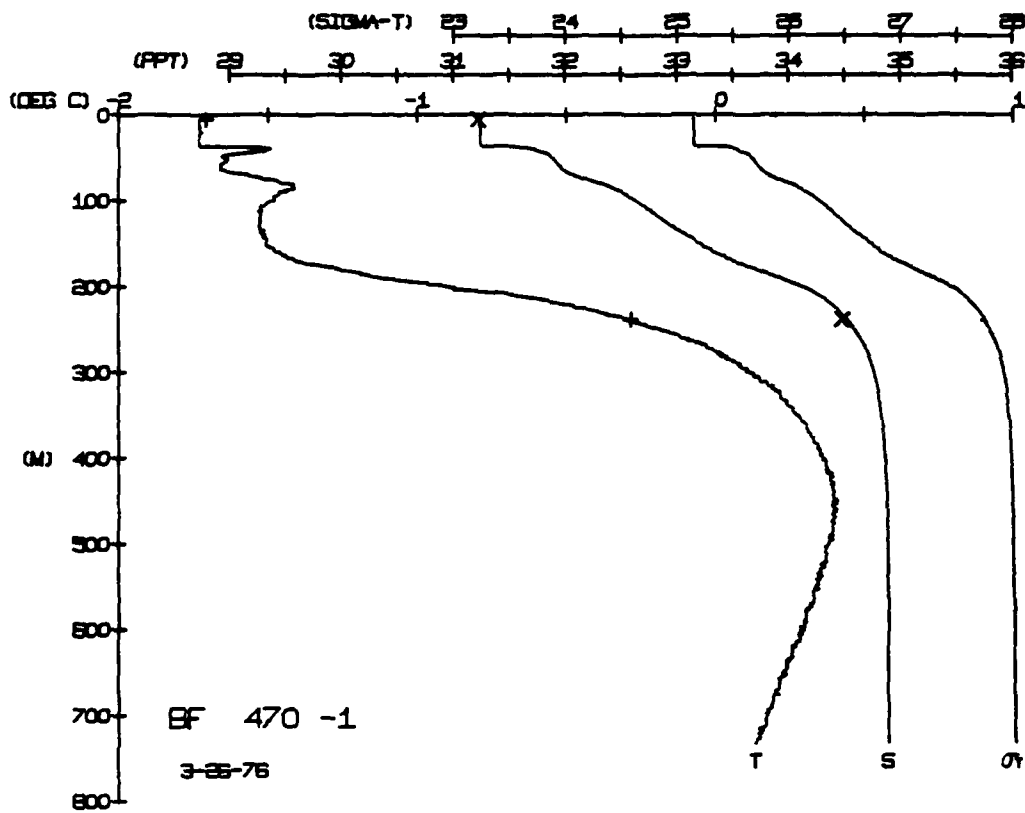




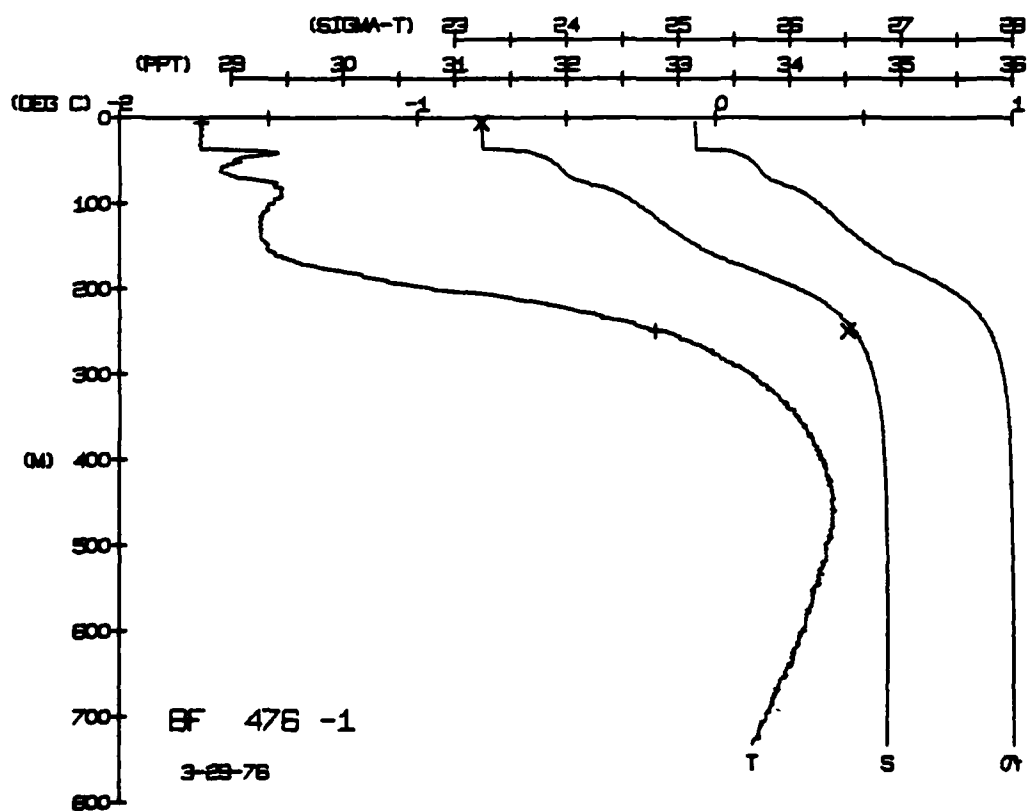
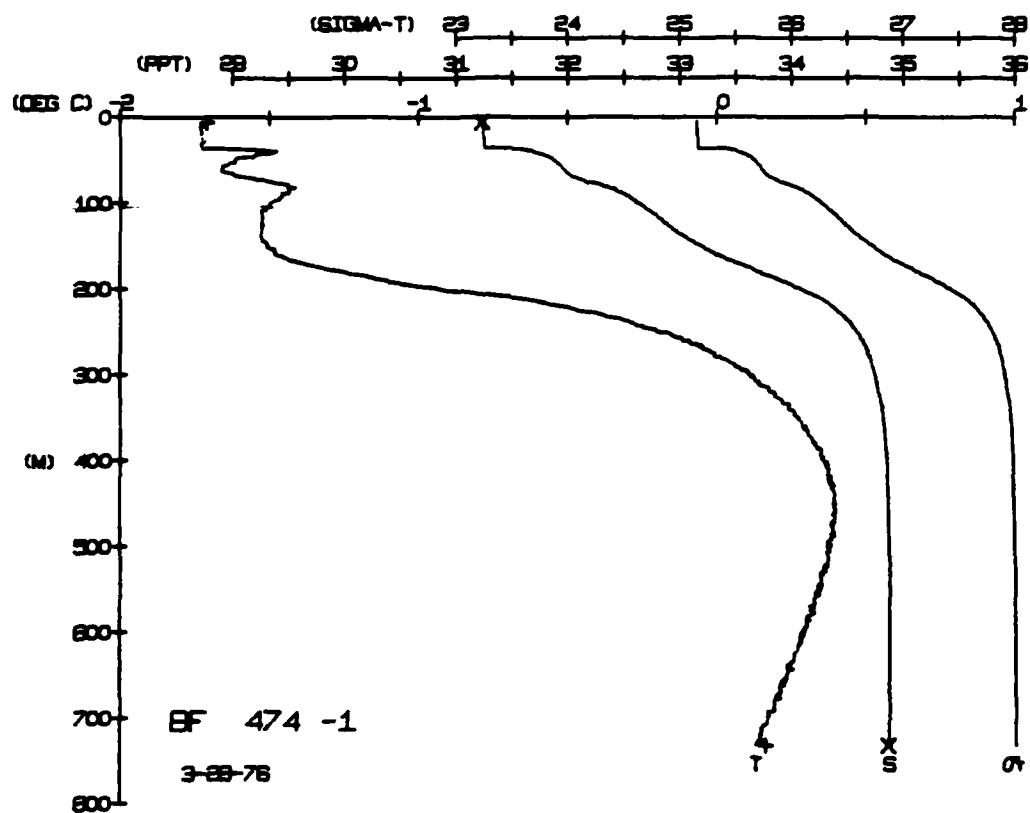




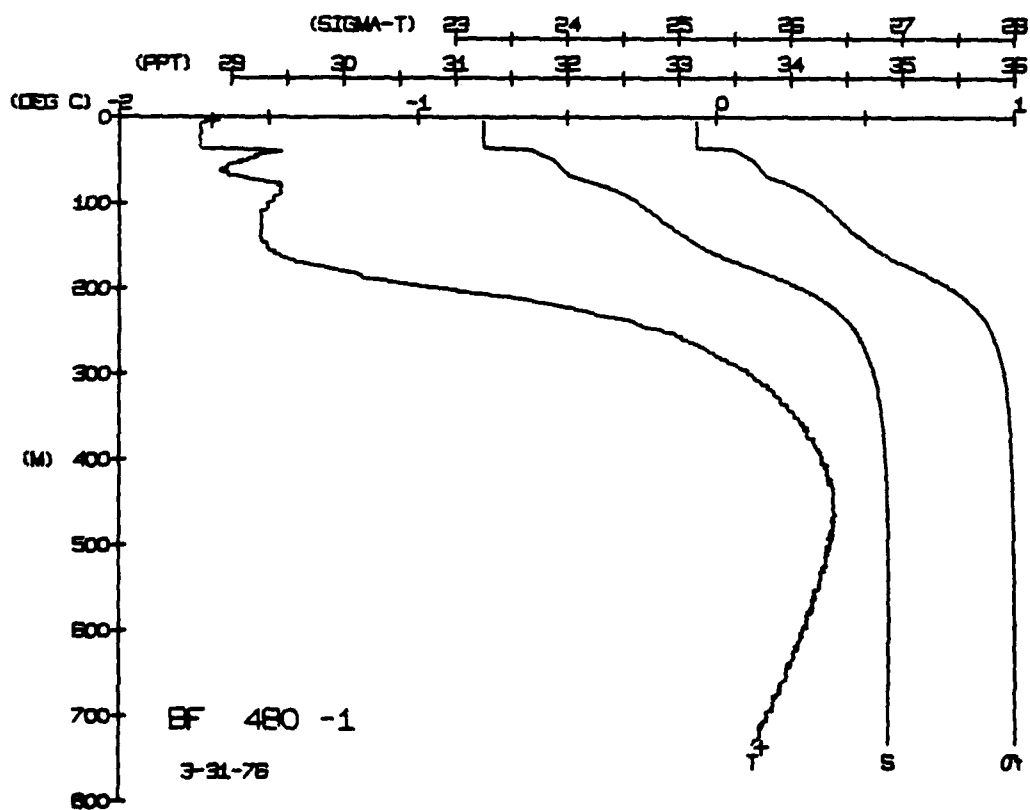
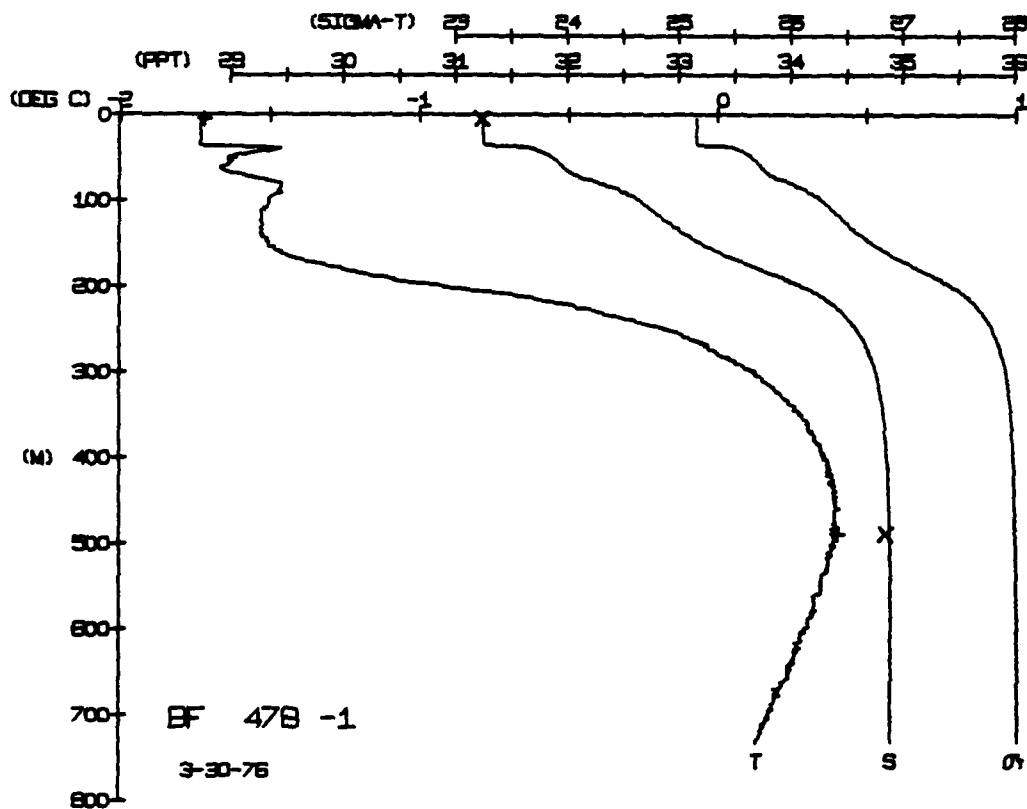




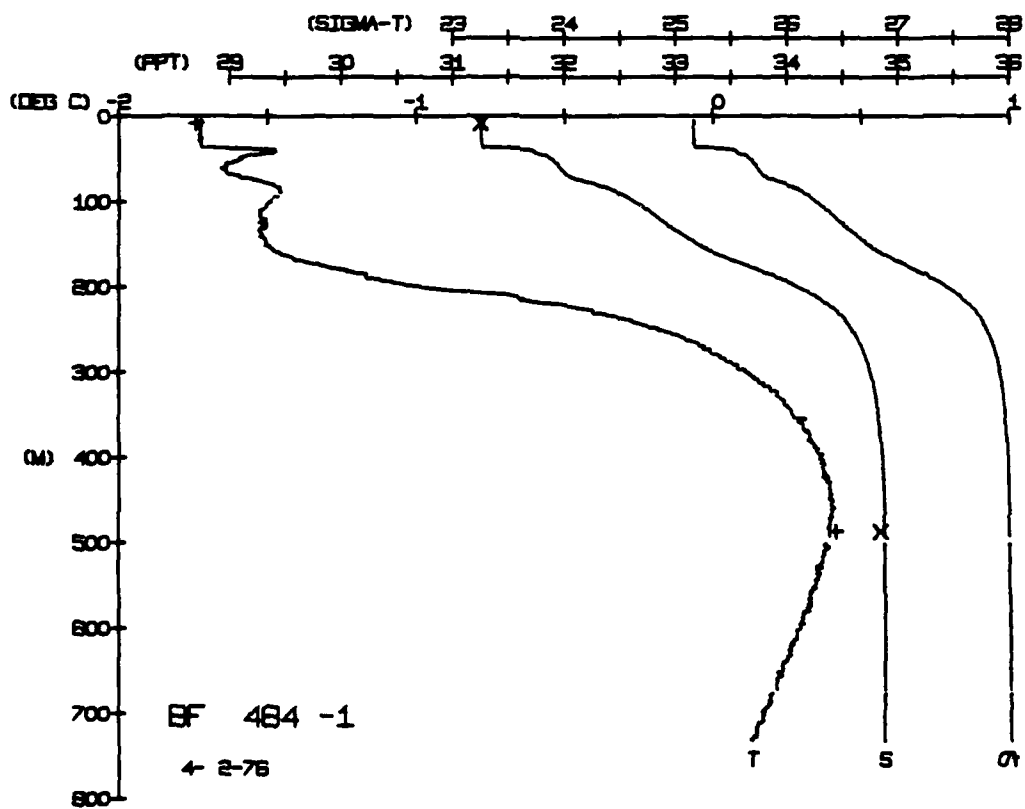
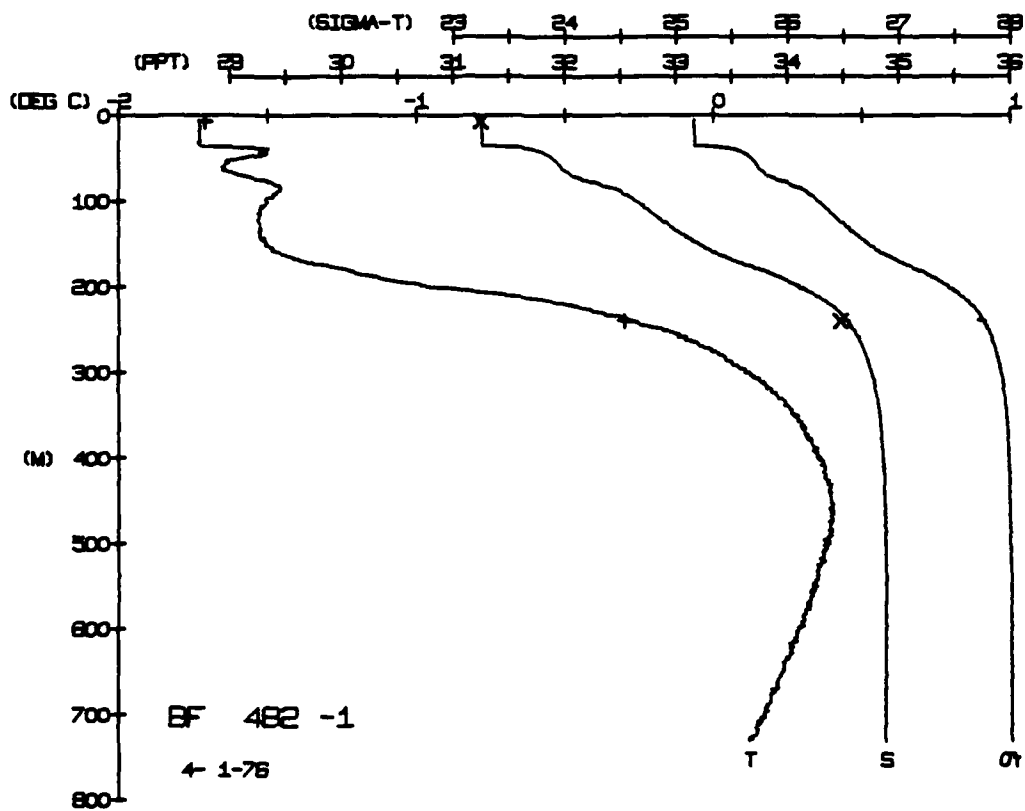






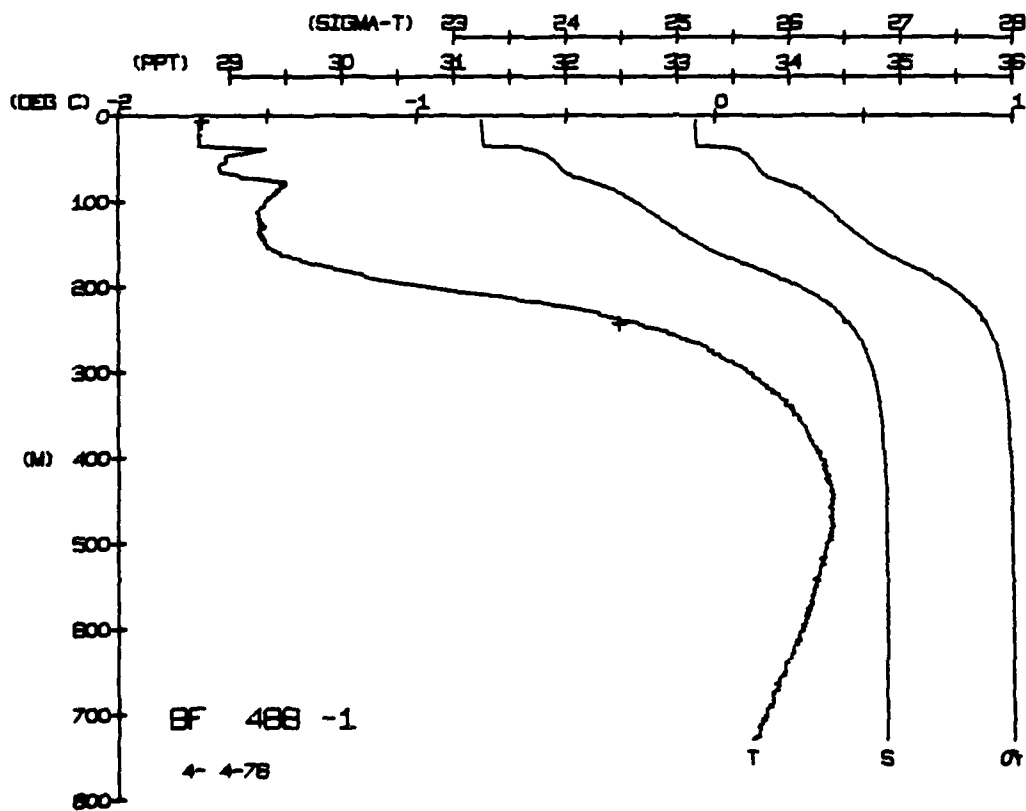
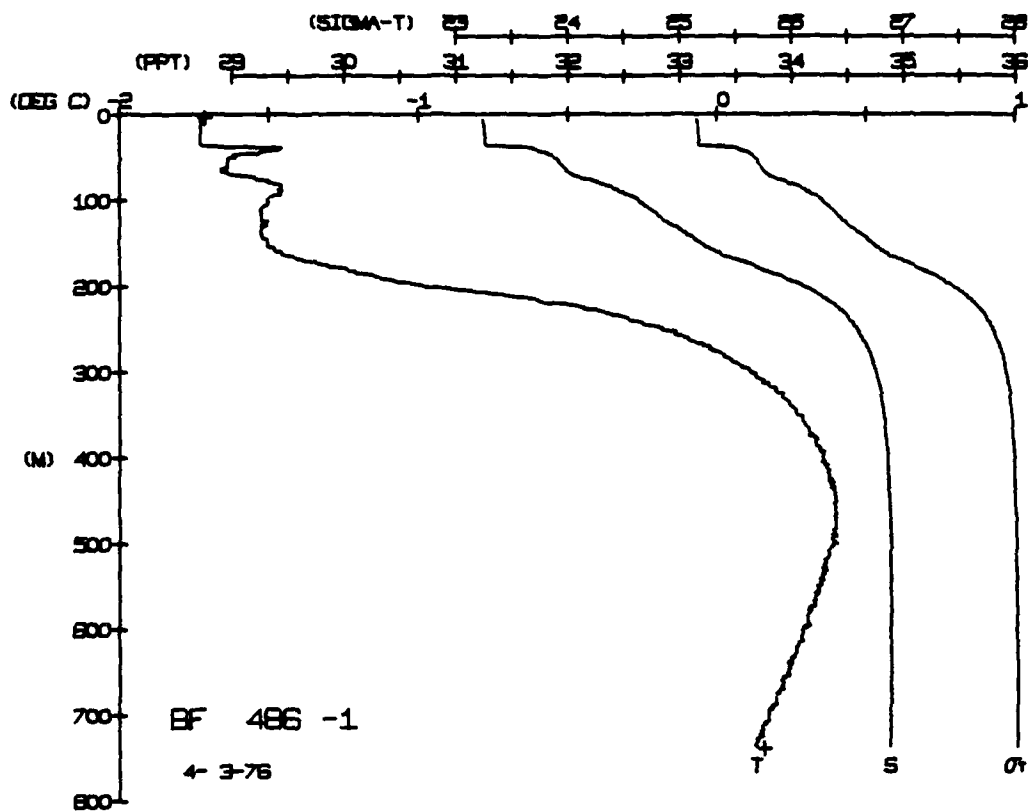




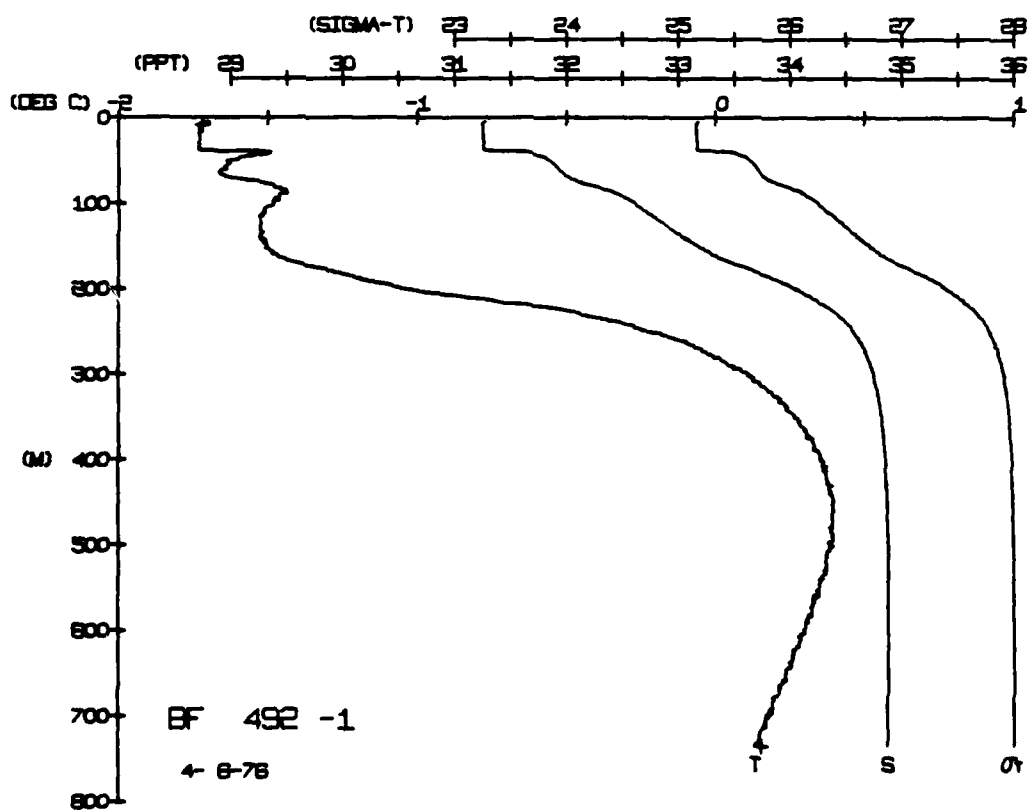
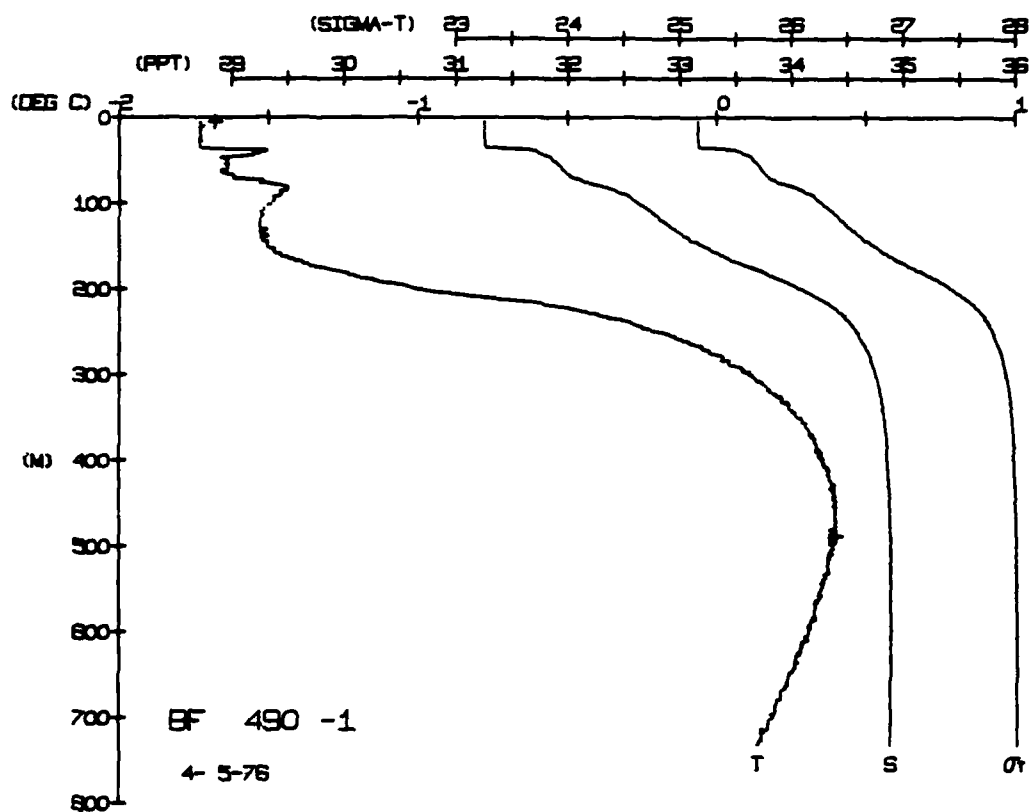




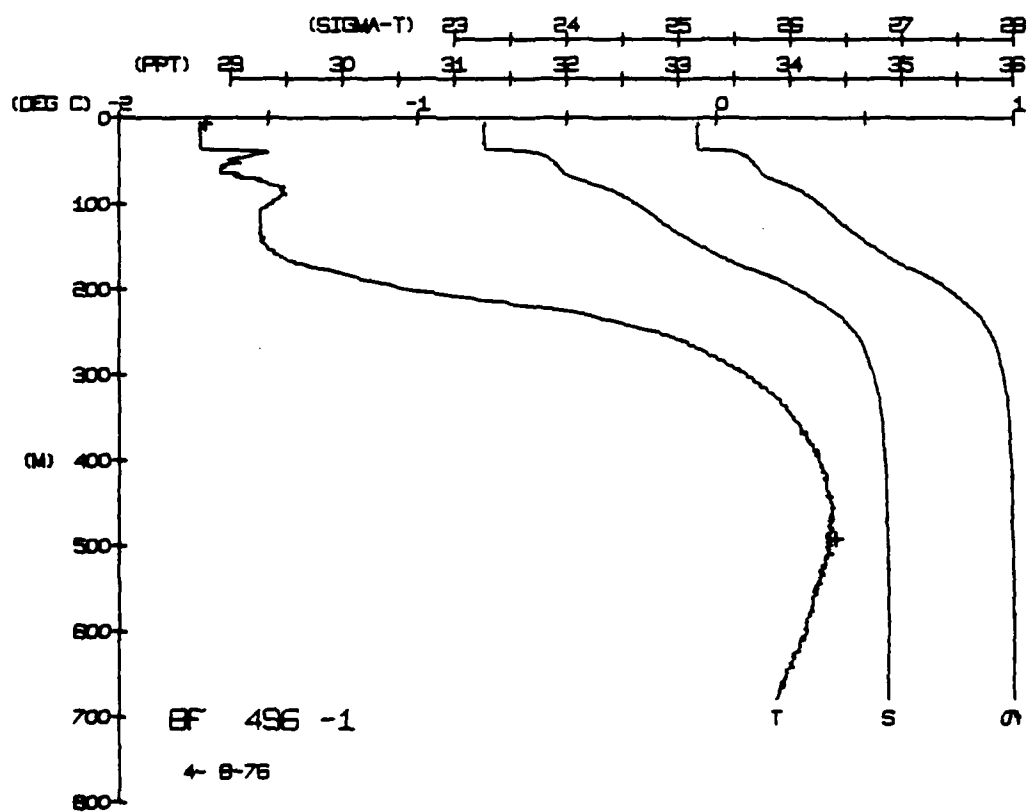
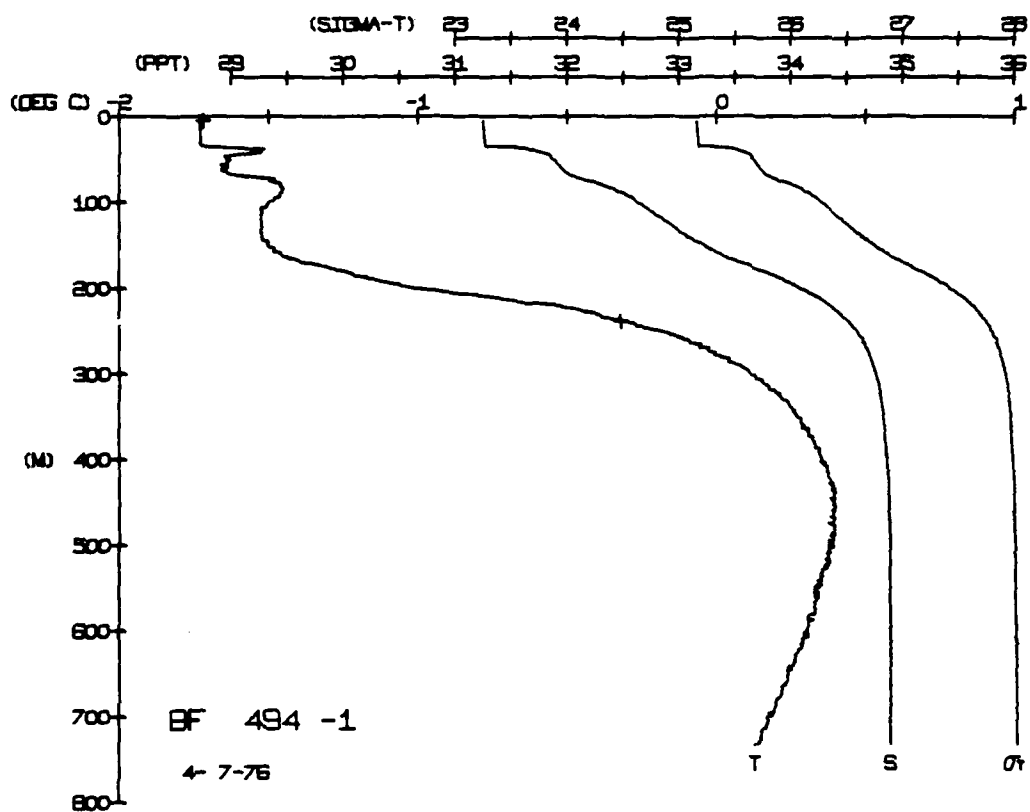




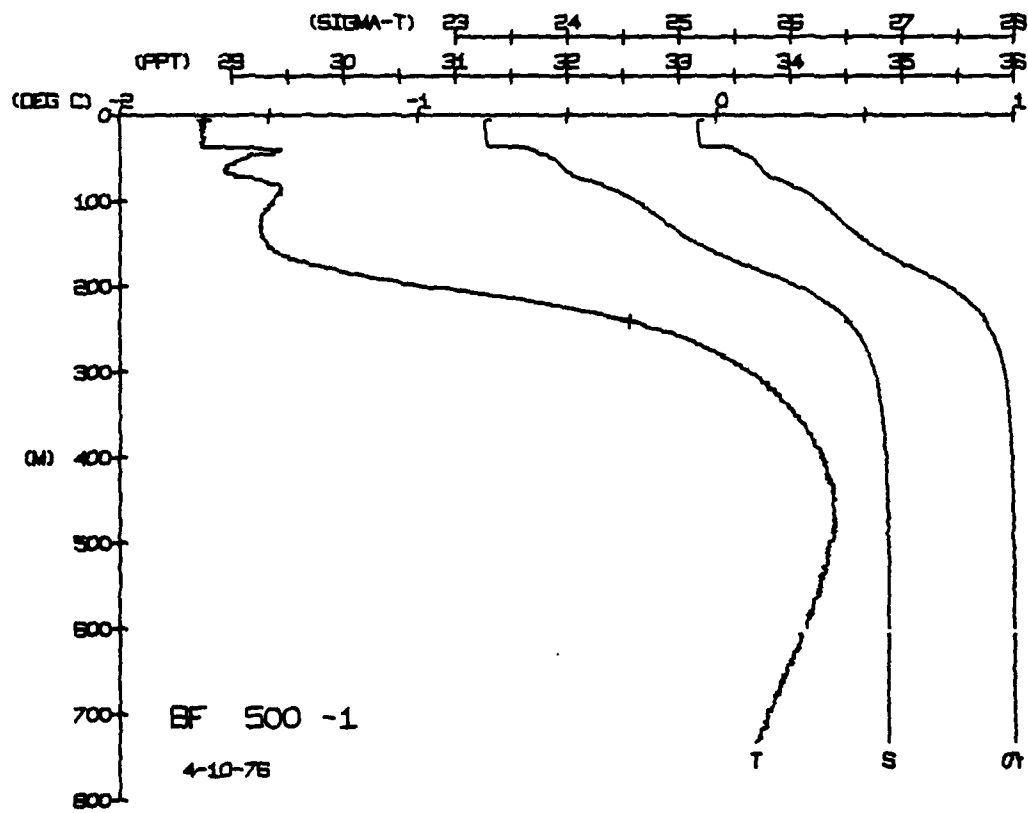
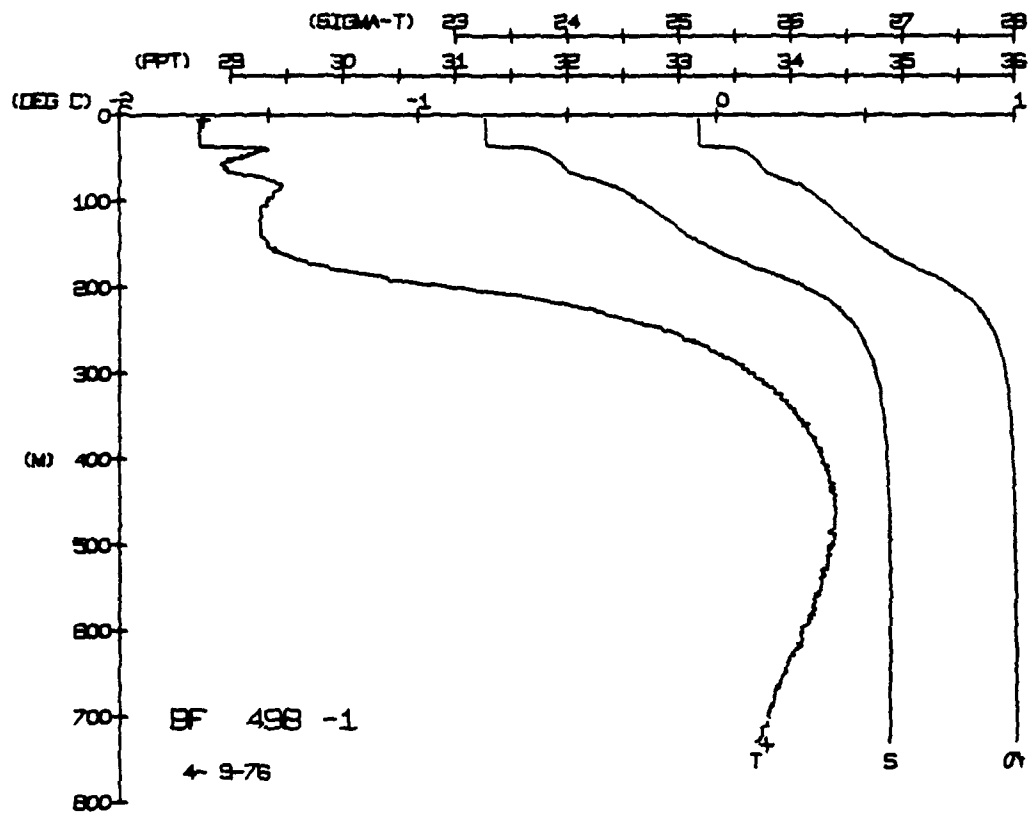






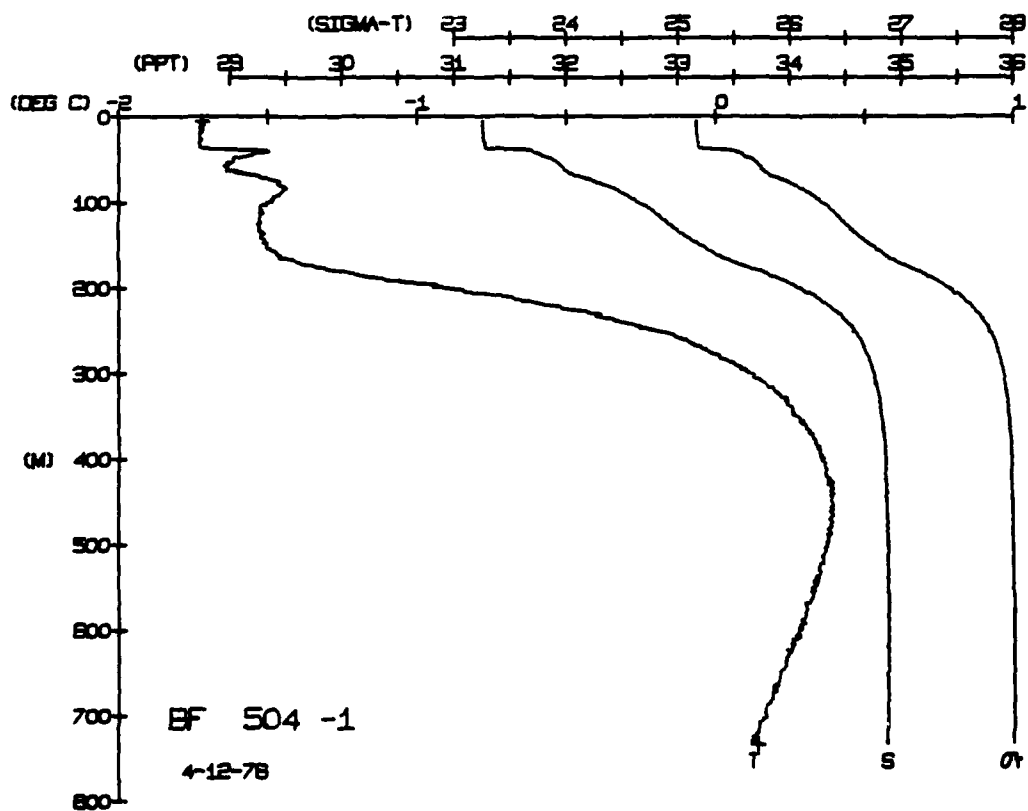
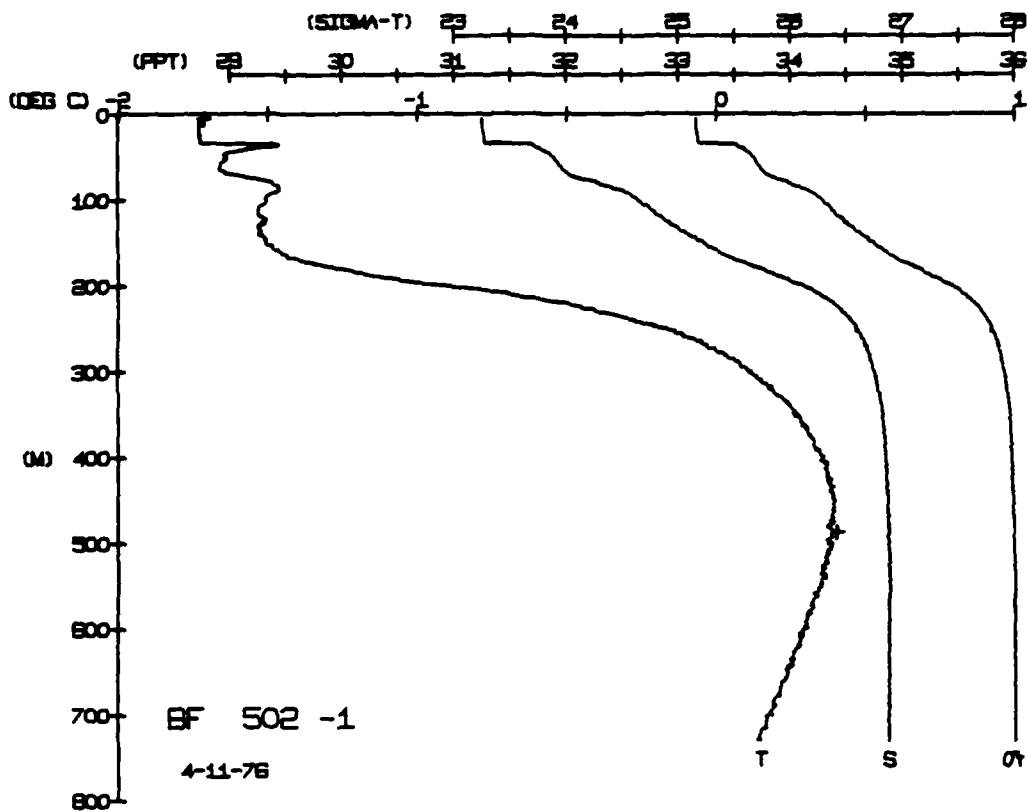




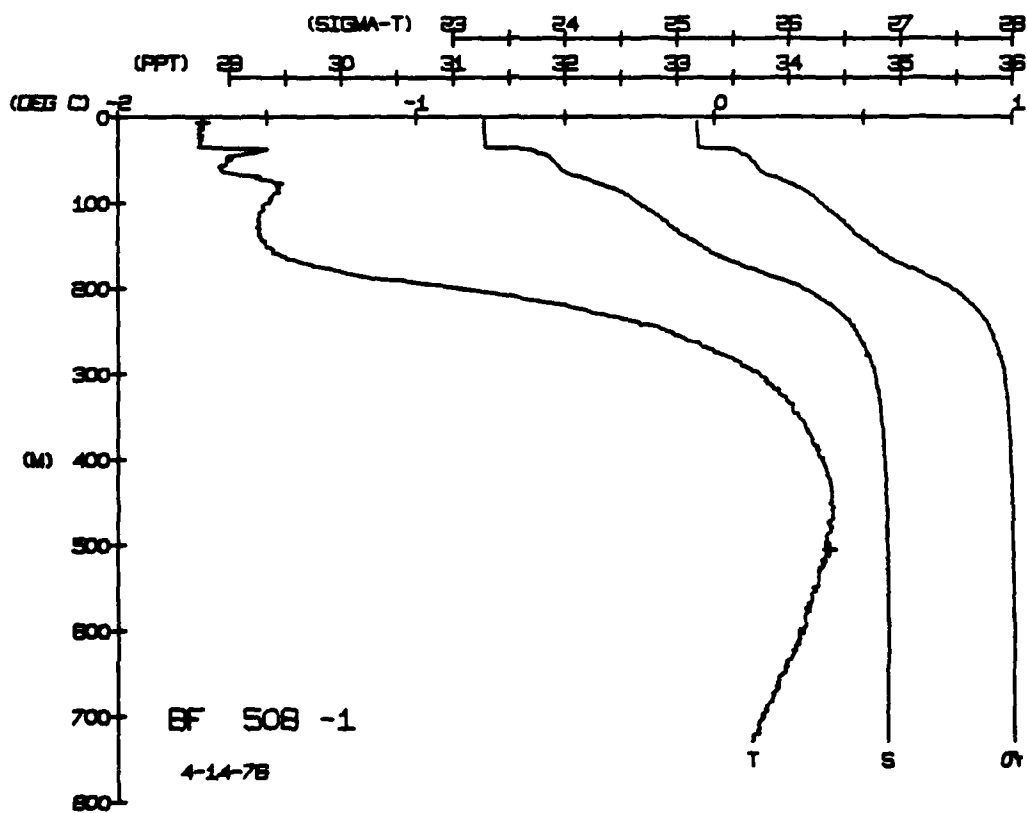
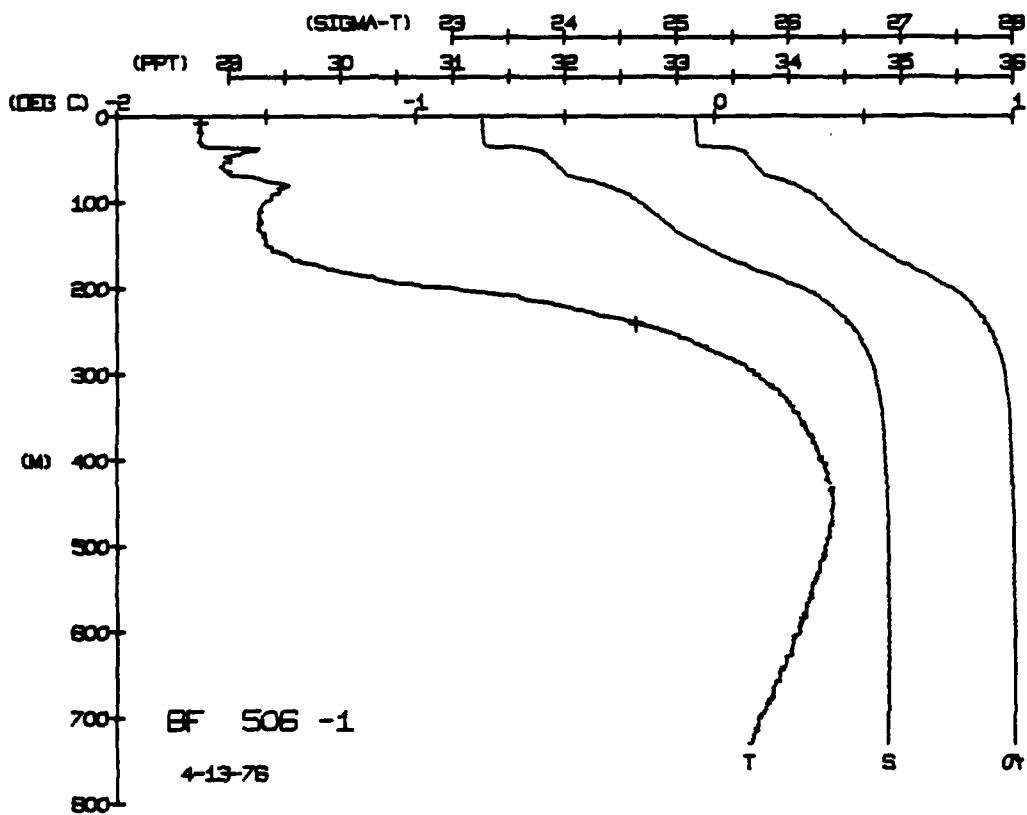




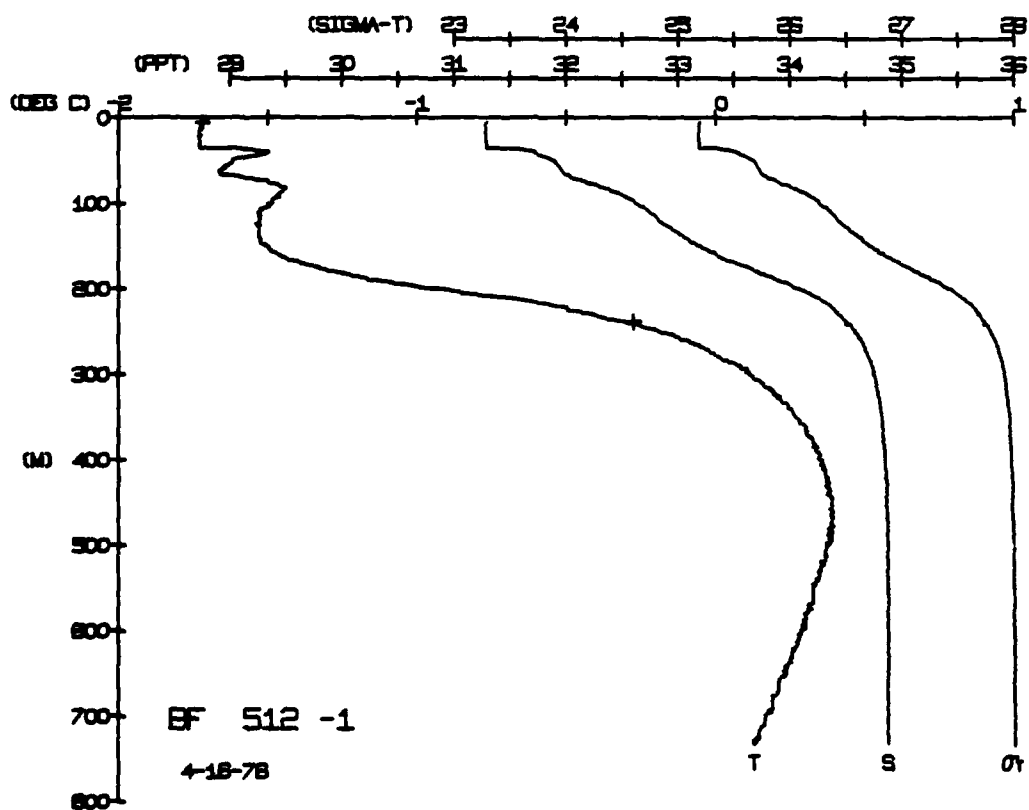
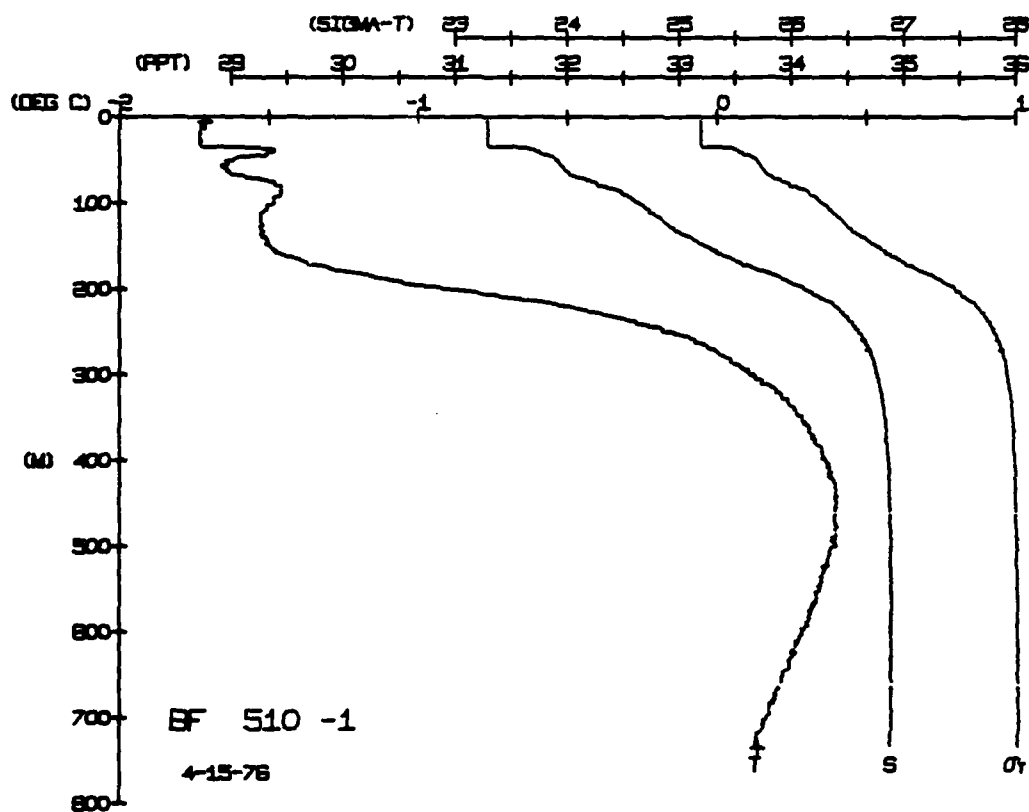




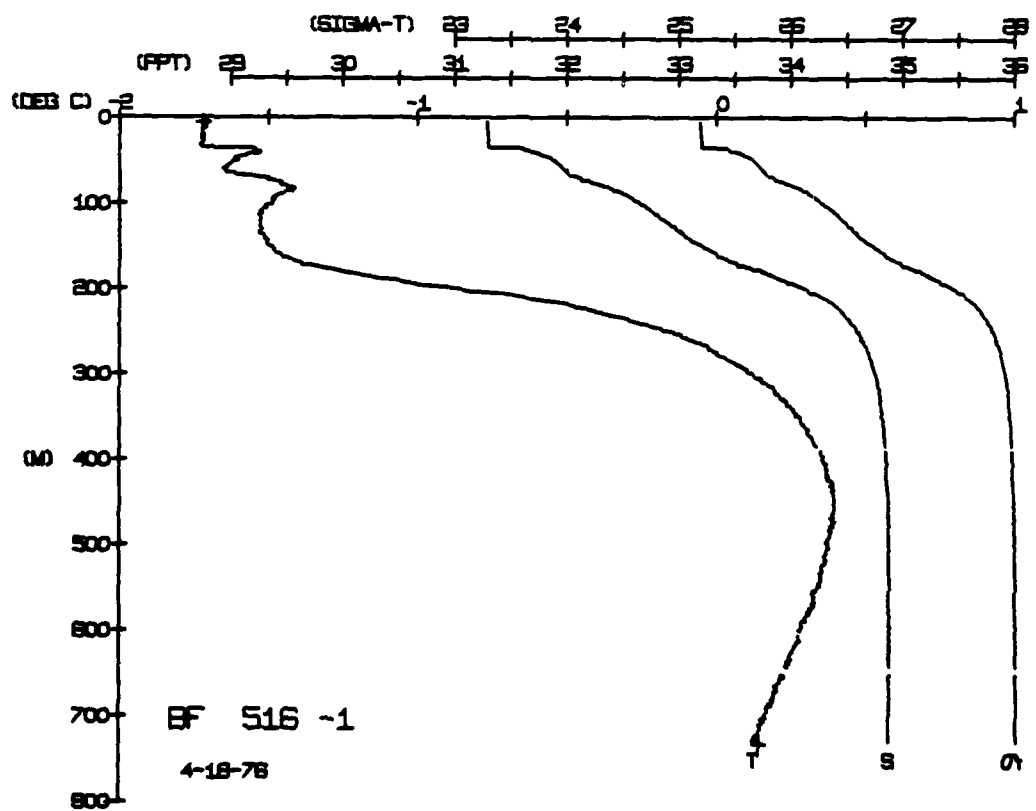
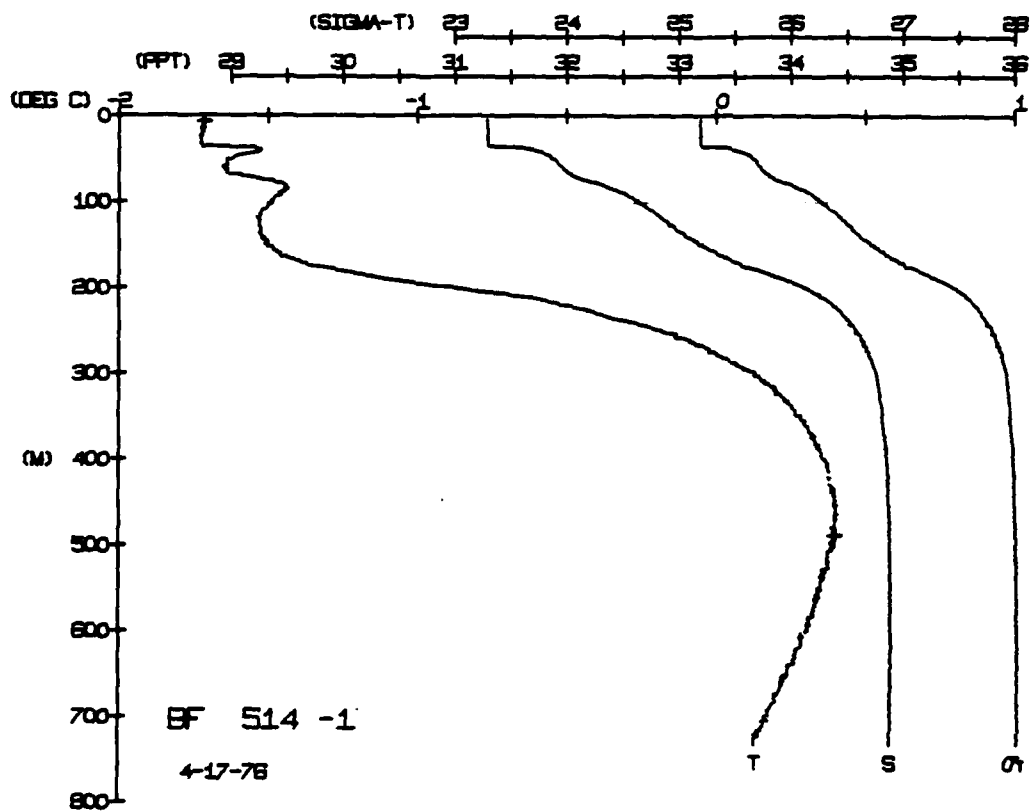






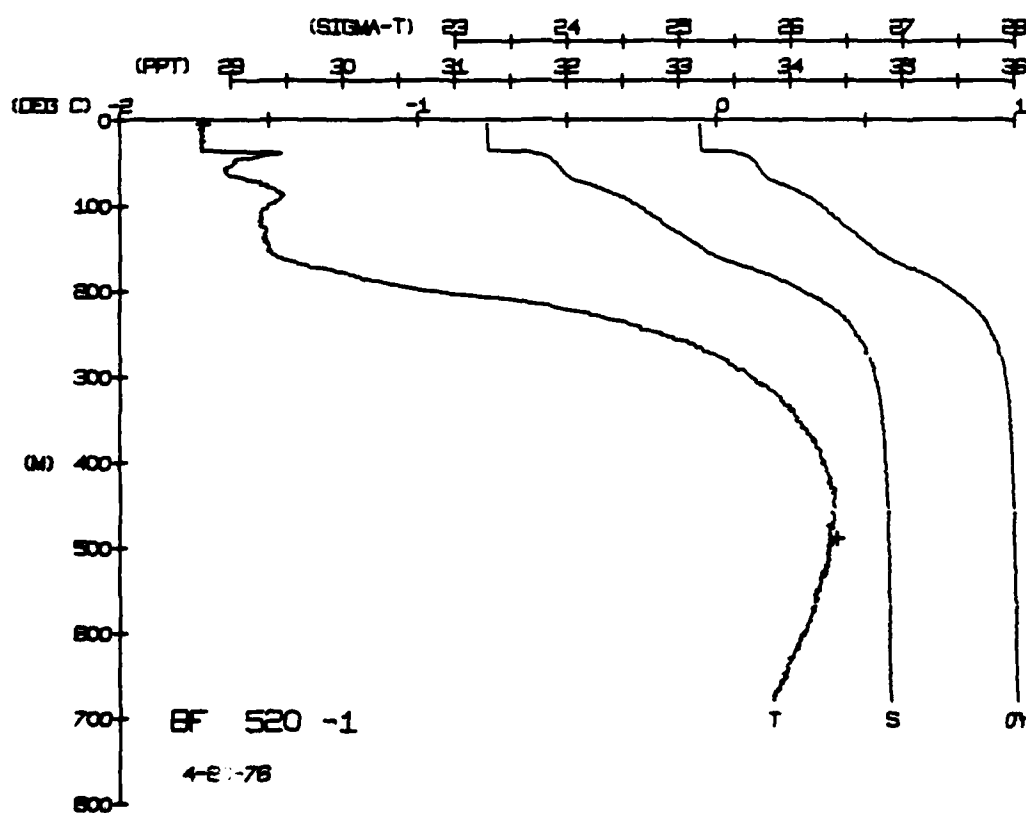
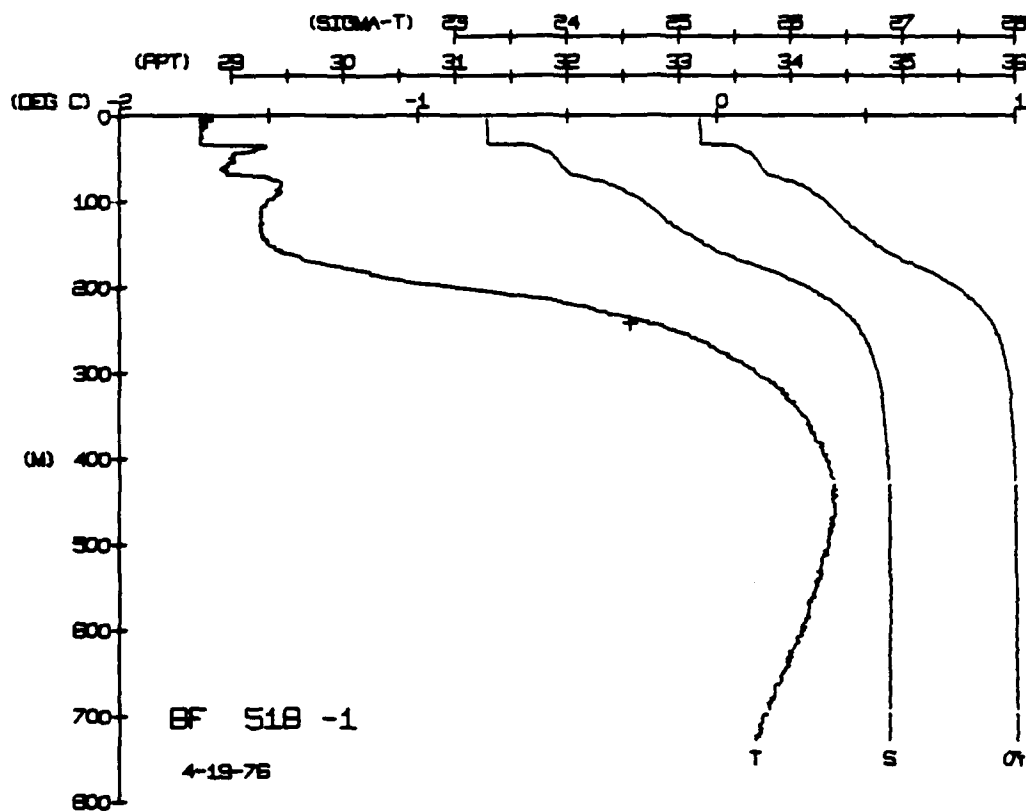












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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)  A total of 1391 STD (CTD) stations were taken from four manned drifting ice camps in the Arctic Ocean during the Arctic Ice Dynamics Joint Experiment (AIDJEX) from April 1975 to April 1976. Profiles were taken at least one a day from the surface to 750 m at all camps and weekly casts to 3000 meters were taken at the main camp. Between casts all stations ran time series by hold- ing the sensor at a fixed depth within the pycnocline; however,		

these data are not discussed. Plessey Model 9040 STD units were used at all camps and data were simultaneously recorded digitally on magnetic tape and graphically on analog charts.

The profile data from the digital tapes were smoothed using a running average. The differing response times of the temperature and salinity sensors were corrected for thermal lag by varying a lag correction until one value gave nearly congruent traces on a T-S diagram for the descending and ascending parts of the cast. A salinity drift which occurred when the sensors were stopped for bottle sampling was also taken into account during data reduction.

Whenever the digital data logging (DDL) system failed to work properly, manually digitized analog traces provided data backup. These profiles, however, are not considered to be as accurate as those processed from tape.

Static calibration of the temperature, salinity, and depth sensors was provided by bottle and reversing thermometer data. Least squares, best-fit polynomials, whose dependent parameters were temperature (T) and depth (D), converted the observed data to final data. Preliminary data analysis has revealed unique features of the temperature and salinity structure in the Beaufort Sea. One of these features is a wintertime upper mixed layer between 25 and 60 m produced by brine convection beneath the freezing ice sheet. This layer changes from neutral to stable stratification in the summer when fresh water from melting snow and ice flows beneath the ice. Another feature is the step structure in both temperature and salinity at depths between 250 and 400 m. Individual steps are about 3 m in height. In this part of the Arctic Ocean there are mesoscale baroclinic eddies with unique temperature and salinity, as well as velocity signatures. These eddies are mostly found within the range of 50 to 400 meters. Deeper anomalies are observed to a depth of 700 meters, but because of the depth limitation of the STD, little is known about their lower structure.

This report pertains to the STD (CTD) data taken at the manned Camp Blue Fox. The STD data associated with the other three manned camps are in separate volumes (Bauer, et al, 1980). Profiling current meter (PCM) data to a maximum depth of 200 meters were taken concurrently at the four camps and are separately reported by Manley et al, 1980.

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